Mining the Future: Post-Market Society and the Capital-Labour Conflict.

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Publications from the Thesis

Publication	Related Chapters	Comments
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	Chapter 9. Three sentences from "Conclusion to the Thesis".	

Declaration of Ethics

The research presented in this thesis was conducted within the guidelines for research ethics outlined in the *National Statement on Ethics Conduct in Research Involving Humans* (1999), the joint *NHMRC/AVCC Statement and Guidelines on Research Practice* (1997), the *James Cook University Policy on Experimental Ethics, Standard Practices and Guidelines* (2001), and the *James Cook University Statements and Guidelines on Research Practice* (2001).

The proposed research methodology received approval from the James Cook University Ethics Review Committee, Approval Number H8584.

Abstract

Introduction

In society there has almost always arisen a minority that have achieved dominance over the majority who then become subject to that power imbalance. Nowhere is this more immediately evident than in the emergence of capitalism leading up to the Industrial Revolution of 18th-century England. By the simple expedient of a private appropriation of the means of production, the 'capitalists' were able to turn formerly free peasant proprietors into wage-dependent labourers who became subject to a self-regulating market in which labour was traded as a commodity. Karl Polanyi (1944, 2001) believed that a subjection of labour to the mercies of a self-regulating market would prove destructive to the human fabric of society.

Through the lens of the mining industry in Australia, this research has considered if Polanyi's work on market societies and labour might provide insights into the historical, present, and future development of work, industrial relations, and human society. To understand what Polanyi's 'fabric of society' might constitute and how it might be endangered, this research explored the literature on the key concepts of community and culture. This established a benchmark from which to assess strengths and weaknesses that such a 'fabric' might exhibit when faced with unrestrained capitalism. Building on this benchmark study, the research proposes a Culture Interpretive Theory (CIT) that empowers identification of the principal agents in the mining community case studies. By interpreting the motivations of such agents through CIT as expressed in their observable behaviour, it became possible to identify the root cause of conflict between capital and labour in these communities.

To facilitate the application of CIT to the selected mining communities, the research continued with a historical review of literature on the development of the capitalist system. With its origins in the Agricultural Revolution of 15th and 16th-century England, the capitalist system of wealth production and distribution, although ubiquitous in modern society, is little questioned and still less understood. The review traces the development of capitalism from medieval England to 20th century Australia, charting the cycles of conflict between employers and the working-class unions that capitalism gave birth to. This review led to the Research Aims, which in turn led to the establishment of the Research Questions.

Research Aims

The research has two aims. **The first aim** seeks to add to the discourse in this space by exploring the past, the present, and the recurring factors, that contribute to the antipathy between capital and labour. It will achieve this by identifying and explaining the driving factor(s) of this antipathy between the two in the capitalist system of wealth distribution. Building on this, **the second aim** is to consider the implications of this recurring antipathy for the future of work, employment, industry development, governance, and wealth distribution, as Australian society faces increasingly uncertain times in the 21st century. These aims will be achieved with the guidance of the following research questions:

Research Questions

1. What are the socio-cultural and economic factors behind the antipathy between capital and labour, in the mining workforces and associated communities in Australia?
2. What explanations can be found for the recurrent and cyclical nature of this antipathy?
3. What implications might the ongoing antipathy between capital and labour have for the future of industry development and employment in Australia in the 21st century and beyond?

Methodology

The research is principally based on a meta-ethnography of qualitative literature sources on the industrial history of the mining centres of Broken Hill in New South Wales, and the Pilbara District in Western Australia. A meta-ethnographical synthesis was conducted on these literature sources following the seven-phase procedure of Noblit and Hare (1988). To triangulate the research, a document analysis and a series of semi-structured interviews were conducted on the Eastern Australian coal mining industry to investigate contemporary industrial relations in response to company attempts at casualising the workforce.

An Uncertain Future

Preliminary indications from following up Research Question 1 indicated that much of the antipathy between capital and labour in the mining communities studied arose from either an inability, or an unwillingness of each to see matters from the others viewpoint. This established a datum from which to begin to address the remaining two research questions. As Research Questions 2 and 3 were pursued it was revealed that human *greed* is the principal stumbling block in the way of an equitable distribution of wealth across society. In an unregulated labour market, capitalist greed will beat down the labour share of that wealth to below subsistence level to maximise its share. In a labour market regulated by trade union

domination, it has proven possible for the greed of labour organisations to maximise their share of that wealth to the point of threatening the viability of the entire system.

Capitalists have responded to the threat of labour domination by adopting an extreme form of capitalism, neoliberalism, which has used global production networks to bypass collective labour at home. By also progressively instituting a technology-labour substitution process they have sought to minimise the size of their workforce, while at the same time increasing its production efficiency. In the 21st-century, this process of technology-labour substitution has advanced to the stage where it is fast becoming feasible to replace the human workforce almost entirely across all industry sectors with a new generation of highly capable autonomous machines. The now two-year-old COVID-19 pandemic has only accelerated this trend.

Unless a new basis for the distribution of wealth across industrialised society is progressively instituted as this process continues to unfold, the result will be the increasing impoverishment of the 'working-class', with drastically rising unemployment and underemployment. John Kenneth Galbraith has stated that the resultant "recession in demand and production remains the major uncovered risk of the modern large corporation" (1998, p. 127). The subsequent loss of much of the consumer market to the capitalists is most likely to be followed by the destruction of the human fabric of society for an indeterminate period, as forewarned by Polanyi in 1944.

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Abbreviations

ABS	Australian Bureau of Statistics
ACCR	Australian Centre for Corporate Responsibility
ACTU	Australian Council of Trade Unions
AEI	American Enterprise Institute
AEU	Amalgamated Engineering Union
AI	Artificial Intelligence
ALP	Australian Labor Party
AMA	Amalgamated Miner's Association
AMAX	American Metal Climax company
AMIEU	Australian Meat Industry Employees Union
AMWU	Amalgamated Metal Workers Union
AuPL	Australian Protective League
AWU	Australian Worker's Union
BHAS	Broken Hill Associated Smelters
BHP	Broken Hill Proprietary Company
BIC	Barrier Industrial Council
BLF	Barrier Labour Federation
CasP	Capital as Power
CBI	Conditional Basic Income
CEO	Chief Executive Officer
CFMEU	Construction, Forestry, Mining & Energy Union
CIT	Culture Interpretive Theory
CME	Coordinated Market Economy
CRA	Conzinc Riotinto Australia
CSR	Colonial Sugar Refining company

CUC	Combined Union Committee
FEDFA	Federated Engine drivers and Fireman's Association
FIFO	Fly-in, Fly-out
GDP	Gross Domestic Product
GPN	Global Production Network(s)
HC&REU	Hotel, Clubs & Restaurant Employees Union
IBM	International Business Machines
IEA	Institute of Economic Affairs
IOICC	Iron Ore Industry Consultative Council
IR	Industrial Relations
ISI	Import Substitution Industries
IWW	International Workers of the World
JSC	Joint Steering Committee
LHD	Load-Haul-Dump (truck)
LME	Liberal Market Economy
LNP	Liberal/National Party
MGP	Minimal Group Paradigm
MMA	Mine Manager's Association
MP	Member of Parliament
MUA	Maritime Union of Australia
NIT	Negative Income Tax
NPU	Non-Political Industrial Union
NSW	New South Wales
OPEC	Organisation of the Petroleum Exporting Countries
TLC	Trades and Labour Council
UBI	Universal Basic Income

UK	United Kingdom
US(A)	United States of America
UNHCR	United Nations High Commissioner for Refugees
WIUA	Worker's Industrial Union of Australia
WPA	Workplace Agreement policy
WWI	World War 1
WWII	World War 2

Chapter 1

'From Little Things, Big Things Grow'

Prologue

The reader's attention is drawn to the gendered language that will be found in this thesis. This is a reflection that throughout the historical period covered by much of this study it was uncommon in the male dominated world of the time for the role of women in the workforce to be given prominence in the literature. In addition, the mining industry that forms a large part of this study has historically been almost entirely a male pursuit. In the 21st century women are increasingly being drawn to seek careers in mining. Whether in mining or business and industry in general, the importance of the role of women in the workforce is now being recognised and acknowledged.

Introduction

The antipathy between capital and labour has origins that extend back at least to the Industrial Revolution of Great Britain. Despite this expansive history, I had but little awareness of such a phenomenon until I undertook a trade apprenticeship in a Brisbane engineering workshop during the early 1970s where I was able to witness it firsthand. At the time there was no indication that this period would mark the beginning of the 'swan-song' of collective labour in Australia. After more than 25 years of relative prosperity boosted by Keynesian economic policies, the labour movement, with aspirations buoyed by years of full employment, was demanding a greater share of the wealth of the country and was not in a mood to take 'no' for an answer.

Little did they know that the forces of capital had long been marshalling for this eventuality. As early as 1943, the Polish economist Kalecki had warned that the full employment policy of Keynesianism would eventually become a problem for capitalism, stating:

> the *maintenance* of full employment would cause social and political changes which would give a new impetus to the opposition of the business leaders. Indeed, under a regime of permanent full employment, the 'sack' would cease to play its role as a disciplinary measure. The social position of the boss would be undermined, and the self-assurance and class-consciousness of the working class would grow. Strikes for wage increases and improvements in conditions of work would create political tensions. (1943, p. 3)

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Across Western Anglo-capitalist countries, lobby groups and pro-business think tanks, thus forewarned, had been independently preparing for this rebellion of the working-class.

In the US, one of the most influential institutions was the *American Enterprise Institute* (AEI), first formed in 1943 as the *American Enterprise Association*. The mission of the AEI was "to promote free-market economics in the face of a rising tide of liberal Keynesianism" (Peschek, 1989, p. 168). In the UK, the *Institute of Economic Affairs* (IEA) was established in 1955, rapidly becoming "one of the most prominent international think-tanks committed to the strengthening of free-market values throughout the Western world" (Ventresca, 2019, p. 249). Australia was also represented in this resurgence of the Right, by the *Centre for Independent Studies* (Ventresca, 2019), and more latterly, by the *H. R. Nichols Society.* The result of this counter-mobilisation of the forces of capital was that the 1970s, which began with an all-out assault by labour activism, ended with the collapse of Keynesian welfarism and the re-invigoration of the capitalist class by neoliberalism.

In the 1970s, and '80s, disengaged from political happenings and lacking the overview afforded by a knowledge of labour history, it seemed to me that these events were just another perturbation of the political process. Things would no doubt return to 'normal' with time. It was not until 2017 as I was preparing for post-graduate studies, that I gradually became aware of a much larger picture, one that appeared to be directly relevant to the future well-being of society.

Through my studies in anthropology and historical archaeology, I had developed a growing interest in early mining communities. Prior to beginning my PhD journey, I had become acquainted with the history of the tin mining settlements of Irvinebank and nearby Stannary Hills in the Cairns hinterland as recounted by historian Ruth Kerr. Meticulously researched for her PhD thesis and subsequent widely acclaimed book, *John Moffat of Irvinebank*, Kerr (2000) dealt principally with the life and fortunes of this Scottish entrepreneur and the tin mining empire that he founded in North Queensland in the late 19th century. I was captivated by this tale of events that had unfolded in the hinterland of my district some three generations ago.

As I immersed myself in the history of the Irvinebank district, I realised that there was a further tale to be uncovered in the lives of the common working-folk of these settlements as they struggled against the parsimony of this wily Scotsman, and the

vicissitudes of life on this frontier of the tropics. The story of Irvinebank is also the story of the beginning of organised labour in North Queensland. Unionism was brought to Irvinebank from Broken Hill by the young E.G. (Red Ted) Theodore, who was later to become Premier of Queensland, and subsequently, Treasurer in the Federal Labor Government of the early Depression years.

It is a story of how incessant militant unionism eventually forced the abandonment of corporate mining in that district, and of the privations of families left stranded by the collapse of mining and the onset of the Great Depression. It is but another chapter in the history of the conflict between capital and labour. It is also a story of the ultimate fate that awaits a society in which corporate greed is pitted against union excess, with neither side giving thought to the common good.

Backtracking the young unionist Ted Theodore led me into the world of that 'Mecca of unionism', Broken Hill. It was here that I found, encapsulated in the history of this legendary New South Wales mining town, almost an entire history of the conflict between capital and labour in Australia. Stretching from 1885 to the late 20th century, here was a canvas sufficiently large to give colour and meaning to the events that I had witnessed firsthand during my apprenticeship in the 1970s. Here was a story of the birth pangs of our present society that had the potential to reveal much about its likely future course.

Along with this realisation came an understanding that a typical hard-rock mining venture as it has existed in Australia since colonial times, could stand as an instructive proxy for corporate industry in general in this country. Necessitating capital investment, a corporate management structure, and a wage-earning workforce, the mining industry presents a rich landscape from which to draw an understanding of industrial organisations, industrial relations conditions, and working communities in an Australian society that is still heavily dependent on commodity exports in the 21st century.

In following the unfolding of the capital-labour conflict in the mining industry, as the Broken Hill field approached its twilight years my attention was drawn to the iron ore mining district of the Pilbara in Western Australia. There in the Pilbara I found that such was the power able to be wielded by the mining unions in the early 1980s that they came close to repeating the fate of the Irvinebank and Stannary Hills communities. For

a time, it was a 'close run thing', with the union leadership seemingly bent on nothing less than the overthrow of capitalism.

At the 11th hour, as it were, the forces of capital struck back. First in response to the Mudginberri Abattoir dispute in 1983, where for the first time 'New Right' interests successfully prosecuted the Australian Meat Industry Employees Union (AMIEU) in a civil court. This was followed by the Dollar Sweets dispute in 1985 where the Supreme Court of Victoria awarded common law damages against a union for losses caused by union picketing of the site. These were the first actions of the New Right demonstrating that the power of the unions could be challenged by pursuing punitive damages through the civil courts.

As I continued to trace the fortunes of the capital-labour conflict through the lens of the mining industry, I found that it was the almost simultaneous court actions of CRA at Broken Hill in New South Wales, and Peko-Wallsend at Robe River in the Pilbara in 1986 that broke the power of the metal mining unions, seemingly for all time. Both companies at the time, ostensibly faced with impending insolvency brought about by incessant industrial action, brought massive punitive actions against their unions. With the unions caught off guard by this tactic, mining companies, aided by timely and favourable government legislation, introduced employment contracts to their workforces which effectively sidelined the union organisations.

The stalemate was broken. The long decades of this latest confrontation between capital and labour seemingly had come to a bitter conclusion. Would the capitalists be magnanimous in victory? Or would they take opportunity to beat the working-class back into abject poverty as history would seem to suggest? At the time of writing this thesis the future of society hangs in a precarious balance. Will the present unrestrained market liberalism result in the destruction of the 'fabric of society', as forewarned by Karl Polanyi in *The Great Transformation,* penned in 1944? Alternatively, will society break through to achieve the 'age of leisure and abundance', as forecast by Maynard Keynes in *Economic Possibilities for our Grandchildren,* written in 1930? These are the considerations that motivated this research.

Structure of the Thesis

The thesis is presented in nine chapters as outlined below.

Chapter 1.

The first chapter consists of an introduction to the thesis and the author, followed by an outline of each chapter in the thesis. It concludes with a statement of the Research Aims and the Research Questions.

Chapter 2.1 Literature Review

This chapter is a review of literature, the selection of which was guided by and informed the Research Aims and the Research Questions of the theses. The literature for this review and discussion was captured and distilled from the following search terms in Google Scholar: 'Capital-Labour relations', 'Technology-Labour substitution', and 'Future of work'.

Chapter 2.2. Community and Culture

Karl Polanyi (2001), in writing *The Great Transformation,* expressed his belief that unrestrained market capitalism would destroy the human fabric of society. To better understand what this 'fabric of society' might constitute, Chapter 2.2 explores the literature on the two key concepts of community and culture. This establishes a benchmark from which to assess what strengths and weaknesses such a 'fabric' might exhibit when faced with an unrestrained capitalism.

The recognition of the existence of sub-cultures in a complex industrial community promoted the understanding of human society as a 'society of communities', with each 'community' interlinked to the whole by a network of relationships. From this perspective, and building on the foundation of Social Class theory, the chapter proposes a Culture Interpretive theory (CIT) in which analysis is based on the interpretation of the behaviour and actions of sub-cultural groups and individuals as they interact in such a networked society of communities.

By adopting a Culture Interpretive Theory (CIT) to identify and examine the principal agents and actors within community sub-cultures, and looking at their motivations and grievances as expressed through their behaviour and actions, it should be possible in the historical and contemporary case studies, to isolate some of the root causes of conflict between capital and labour. From such an understanding, likely future outcomes of such conflicts in contemporary case studies might be reasoned.

Chapter 2.3. Mining Communities in Australia

This section outlines the various expressions of community that have developed in the mining industry in Australia from colonial beginnings to contemporary times, with an examination of how the influence of the cultural environment has shaped the expression of those communities.

Chapter 3. Historical Review: The Rise of Capitalism

In Chapter 3, a review on the origins and development of capitalism aims to achieve greater insight into a phenomenon that although ubiquitous in modern society, is little questioned and still less understood. With its origins in the Agricultural Revolution of 15th and 16th century England, the capitalist system of wealth production and distribution had displaced the old feudal system for the ordering of society by the beginning of the Industrial Revolution. The chapter traces the development of capitalism from medieval England to 20th century Australia, charting the cycles of conflict between capitalist employers and the working-class unions that it gave birth to.

Chapter 4. Methodology and Methods

Chapter 4 outlines the methodology and the methods applied in the thesis. The research is principally based on a meta-ethnography of qualitative literature sources on the industrial history of the mining centres of Broken Hill in New South Wales, and the Pilbara district in Western Australia. A meta-ethnographical synthesis was conducted on literature sources recording industrial relations developments over the history of these two centres. The meta-ethnographies followed the seven-phase procedure proposed by Noblit and Hare (1988). To triangulate the research, a document analysis and a series of semi-structured interviews were conducted on the Eastern Australian coal mining industry, to investigate contemporary industrial relations in the wake of current company attempts at casualising the workforce.

Chapter 5. The Broken Hill Mining Community: A Meta-ethnographic Synthesis

This chapter is a descriptive/interpretive meta-ethnography of literature that charts the course of industrial relations in the Broken Hill mining community, from the commencement of mining in 1885 to the comprehensive defeat of the unions by the CRA company in 1986. Beginning with a background of the early discovery and development of mining, the chapter offers a description of the particularities of the

district, and of the massive ore body that was the focal point of the community effort. Describing events around each major industrial relations upheaval, the chapter charts the cycles of alternating ascendancy as capital and labour each struggle for dominance throughout the changing fortunes of the field. The chapter concludes with an analysis of events, summarising these with an application to the research questions.

Chapter 6. The Pilbara Iron Ore 'Communities': A Meta-ethnographic Synthesis

This chapter, also a descriptive/interpretive meta-ethnography of literature relating to the development of iron ore mining in the Pilbara district, charts the course of industrial relations between the unions and the three companies principally involved. Beginning with a profile of the companies, the influence of governments, and the involvement of the Industrial Relations Commission, the chapter then addresses the communities and their role in the rise of the union militancy for which the Pilbara became notorious. The course of industrial relations was followed at each of the three companies in turn, detailing actions taken by companies and unions, and the outcome of those actions. The chapter concludes with an analysis of events, which are again summarised with an application to the research questions.

Chapter 7. 'Brave New World': Employment Relations in the 21st Century

In this chapter, the narrative shifts to the coal industry of the Eastern States of Queensland and New South Wales. Here, the investigation concentrates on the current conflict between capital and labour generated by the mining companies' attempts to casualise the workforce with a consequent reduction in pay and conditions. Beginning with a background of the labour-hire industry in Australia, the chapter then conducts two document analyses followed by a series of interviews.

Document Analysis

The first analysis is of two commissioned, and two independent, industry reports on labour-hire and casual work in Australia. Of the commissioned reports, the Deloitte Access Economics report (2019) was commissioned by the employer association, the Minerals Council of Australia. The second report, the McKell Institute report (2020) was commissioned by the mining union, CFMEU. The independent reports were the ACCR report: Labour-Hire and Contracting across the ASX100 (2020), and the Australia Institute report: The Dimensions of Insecure Work: A Factbook (2018).

Themes identified in the reports were coded manually and appear in a comparative table in the chapter.

The second document analysis is of a range of industry grey literature publications on the same theme of labour-hire and casual work in the mining industry. Eleven documents were selected, covering a range of mining industry journals, and union publications and submissions. The documents were uploaded into NVivo 12 to facilitate the identification of themes, which were entered into a separate table in the chapter. This section of the chapter ends with a discussion and conclusion of matters uncovered in the document analysis.

Semi-structured Interviews

To further triangulate the document analyses, interviews were conducted with persons working, or having worked in the industry. There were approximately eight initial expressions of interest from people employed in the coal mining industry, with a snowball effect contributing two further responses. Unfortunately, shortly after this encouraging beginning the coal mining districts in both Queensland and New South Wales were severely impacted by repeated flooding events which caused four prospective interviewees to drop out, and effectively stopped further expressions of interest. The interviews subsequently proceeded with the remaining six participants, whose names were coded to preserve anonymity. This section was rounded off by analysis and comment on a timely podcast of a CFMEU interview of Shadow Industrial Relations Minister, Tony Burke, on the question of wage parity for labour-hire casuals titled 'Same Job, Same Pay'.

Chapter 8. Mining the Future: Implications of the Antipathy between Capital and Labour

In a review of the origins and development of the capitalist system, Chapter 8 examines how and when the antipathy between capital and labour first arose. From the understanding gained it then poses the question 'why is this predicament persisting in industrial capitalism after the passage of more than two centuries'? After proposing an answer to this latter question the chapter then extrapolates from the case studies and analyses of the thesis in the light of this reasoning, to project the likely future course of employment in the mining industry as the emerging Age of Machines begins to displace the human workforce.

Maintaining the theme of the mining industry as a proxy for industry in general in Australia, the chapter then considers the social implications of the extension of autonomous machines to all aspects of human endeavour as the capitalists finally begin to free themselves from the tyranny of 'working-class' control. The chapter then considers the likelihood of a 'last-minute' redemption of society by Polanyi's 'double-movement', and from which possible direction such a movement might come.

Chapter 9. Conclusion

Chapter 9 outlines the key contributions of the research and gives a final summary, sounding a last warning for an Australian society so vitally dependent on the export revenue from a finite and limited resource. The chapter discusses the limitations of the research and makes suggestions for a useful direction for future research.

Research Aims

This research seeks to add to the discourse on the antipathy between capital and labour. It has two aims. **The first aim** sets out to explore the factors (past, present, and recurring), that contribute to the antipathy between capital and labour. It will achieve this by identifying and explaining the driving factor(s) of this antipathy between these two entities in the capitalist system of wealth distribution. Building on this, **the second aim** is to consider the implications of this recurring antipathy for the future of work, employment, industry development, governance, and wealth distribution, as Australian society faces increasingly uncertain times in the 21st century. These aims will be achieved through the following research questions:

Research Questions

1. What are the *socio-cultural and economic factors* behind the antipathy between capital and labour, in the mining workforces and associated communities in Australia?
2. What explanations can be found for *the recurrent and cyclical nature* of this antipathy?
3. What *implications might the ongoing antipathy between capital and labour* have for the future of industry development and employment in Australia in the 21st century and beyond?

Chapter 2.1

Literature Review

Chapter 2.1 is a review of literature, the selection of which was guided by the Research Aims and the Research Questions of the thesis. After an introduction from Karl Marx's (1887) *Capital, Volume 1*, the chapter follows the unfolding of Marx's theme of capitalist exploitation of the working-class in Australia through the work of William Guthrie Spence's (1909) *Australia's Awakening.* The chapter continues with a critical review of journal articles distilled from the following search terms in Google Scholar: 'Capital-Labour relations'; 'Technology-Labour Substitution' and 'Future of Work'. The literature review extends into the final part of the chapter where it seeks to determine and discuss the current thinking on the implications of the ongoing antipathy between capital and labour for the future of industry development and employment in Australia in the 21st century and beyond.

Factors Contributing to the Antipathy between Capital and Labour

Contributions from Karl Marx, (1887)

Marx harboured few illusions about the reasons for the antipathy that exists between capital and labour, stating that "[t]he contest between the capitalist and the wage-labourer dates back to the very origin of capital" (1887, p. 287). Such a contest arose, Marx contended, because "capital has one single life impulse, the tendency to create surplus-value, to make its constant factor, the means of production, absorb the greatest possible amount of surplus labour" (p. 163). In order to achieve his ends, the capitalist immiserates labour by attempting to extend the number of hours worked in a day as far as possible, while at the same time driving wages ever downwards. Marx attributed this driving factor of the capitalist to greed, stating "[b]ut in the capitalist the greed for surplus labour appears in the straining after an unlimited extension of the working day …" (p. 165). In such a contest of rights, between the capitalist's right to purchase labour, and the labourer's right as seller of that labour, it is force, Marx asserted, that will be the deciding factor.

> Hence is it that in the history of capitalist production, the determination of what is a working day, presents itself as the result of a struggle, a struggle between collective capital, *i.e.*, the class of capitalists, and collective labour, *i.e.*, the working-class. (p. 164)

And further:

> In this struggle capital shows no regard for the well-being of labour power. All that concerns it is simply and solely the maximum of labour-power that can be rendered fluent in a working day. It attains this end by shortening the extent of the labourer's life, as a greedy farmer snatches increased produce from the soil by robbing it of its fertility. (p. 179)

Marx reserved an especial condemnation for the dehumanising application of machines by capitalists, not only for their ability to prolong the length of the working day, but also because the capitalists soon realised that they could be operated by a child.

> In so far as machinery dispenses with muscular power it becomes a means of employing labourers of slight muscular strength, and those whose bodily development is incomplete, but whose limbs are all the more supple. The labour of women and children was, therefore, the first thing sought by capitalists who used machinery. (1887, p. 272)

The increasing use of such machines provoked a violent reaction from displaced workers, who, under the name of 'Luddites', embarked upon a widespread destruction of power-looms during the first 15 years of the 19th century. As noted by Marx:

> It took both time and experience before the workpeople learnt to distinguish between machinery and its employment by capital, and to direct their attacks, not against the material instruments of production, but against the mode in which they are used. (1887, p. 288)

Perhaps, in lifting his eyes momentarily from these grim realities, Marx thought that he had glimpsed the promise of a better future when he remarked:

> It is otherwise in the colonies. There the capitalist regime everywhere comes into collision with the resistance of the producer, who, as owner of his own conditions of labour, employs that labour to enrich himself, instead of the capitalist. (1887, p. 543)

The Australian Context, W. G. Spence, (1909)

It fell to the Labor leader, W.G. Spence to continue Marx's theme of capital-labour antipathy after the settlement of the Australian colonies. As Spence recounts, for a brief period beyond the early convict years it would appear that there existed for a time the possibility of labourers avoiding such ensnarement by the capitalist, to become masters of their own destiny. At least, such was the lament of one Edward Gibbon Wakefield in a tract published in London in 1829. Wakefield expressed regret that:

> … you cannot long have free servants in this country; if a free man arrives in the colony, though he may for a short time work for you as a servant, yet he is sure to save a little money, and as land is here so excessively cheap he soon becomes a landed proprietor (cited in Spence, 1909, pp. 12-13).

Wakefield, however, believed he had the answer to this wilful avoidance by labour of capital. As Spence noted of Wakefield:

> His scheme for effecting this purpose was to charge a high price for the land, and so to prevent the poor people from purchasing it; the money received from the sale of the land he proposed to employ in bringing out young men and women as servants and farm labourers, for the service of the wealthier colonists. (1909, p. 13)

Wakefield's scheme evidently appealed to other wealthy colonists, as in 1829, South Australia acted upon his suggestion, charging up to £3 or £4 an acre. It is to the implementation of this scheme that Spence attributed the bedrock of the Labor Movement in Australia. "Place the essentials of wealth production in the hands of the few", he thundered, "and the rest of the community are little better than serfs" (Spence, 1909, p.14).

However, the success of Wakefield's scheme was interrupted by the discovery of gold in Australia. As Spence recounts, "[t]here was no life more free and independent than that of the gold digger. He was no wage slave, but a free man, with all those high qualities only developed under free conditions" (1909, p. 18).

Alas, the gold digging days could not last. "The shallow leads ran under the basalt and into deep wet ground, and soon led to the days of big mining companies, and the free, independent digger became a worker for wages" (p. 20). In the cities and the regional centres, manufacturing to support the mining ventures was introduced, and in the long hours and low wages, the history of exploitation between capital and labour in England descended at last, to blight the future of Australian communities.

A Road to Nowhere: 21st Century Globalisation

How is one to acclaim the social 'progress' achieved in the modern world when Bernstein (2007) is able to say of it "I suggest that there are few social forms and practices of exploitation and accumulation in the past histories of capitalist development that cannot be found somewhere today" (p. 3). "Marx," he said, "would not be surprised that the size of the reserve army of labour, as 'surplus' to the current valorisation requirements of capital, has increased as a result of globalisation" (Bernstein, 2007, p. 4). The deregulation and 'flexibilisation' that, in neoliberal ideology is construed as the expansion of freedom, has meant for labour only a loss of freedom. The freedom of its hard-won rights in the workplace, as well as many of the benefits of 'social income' that

supplemented wages for much of the latter half of the 20th century, while everywhere the quickening metronomic beat of the machine has been sounding its warning.

Jung and Lim (2020) noted that the capitalist application of machine technology, so deplored by Marx, has been an issue of controversy during each of the four Industrial Revolutions. Following the Luddite movement during the First Industrial Revolution, the Second Industrial Revolution, precipitated by the development of the steam engine caused widespread unemployment and falling wages. The Third Industrial Revolution, of Information and Communications Technology led to an increased disparity between skilled and unskilled workers. In the present, the authors note, "due to the expansion of cutting-edge technologies such as AI, the Fourth Industrial Revolution is expected to have significant repercussions on labor regardless of labor proficiency (Jung & Lim, 2020, p. 1). Borzaga et al., (2019) also support this view, noting that:

> Concern about machine-driven labour displacement is not new. On other occasions in the past, the world of work has gone through high-impact changes that have substantially altered the forms of work and the ways it is undertaken. It happened with the transition from agriculture to modern industry, and again during every industrial revolution. (p. 41)

In a final a sobering rejoinder, Borzaga et al., (2019) add that the belief that automation will create as many jobs as it destroys is currently falling out of favour.

Such discussion of cycles of industrial unrest attributed to the technological innovations of successive Industrial Revolutions pose the question: is it the technology itself, or some other factor that is causing the cycles? But here, agreement is not as readily achieved. Atkinson (2018) states unequivocally that we are not facing a fourth Industrial Revolution, but rather a sixth. In Atkinson's periodisation:

> a sixth wave will emerge, likely grounded in AI, robotics and perhaps nanotechnology, but not before an intervening period of relative stagnation of perhaps as long as 20 to 25 years, a period the global economy appears to be suffering through now. (2018, p. 105)

Attempting an alternative explanation, Jung and Lim (2020) have noted that the business cycle is closely related to the unemployment rate, and exerts a considerable impact on wage levels. Birecree (1991) endorses this view, adding that fluctuations in international currency markets also contribute to industrial unrest. However, neither the business cycle nor international currency fluctuations would appear to bear any relationship to 20 to 25 year cycles as envisaged by Atkinson. Possible causative factors

for these recurring cycles of industrial unrest will be examined more closely through the meta-ethnographies in the main body of the thesis.

Does the ongoing antipathy between capital and labour have implications for the future of work?

As will be made plain in the meta-ethnographies of the thesis, the mining industry in this country has been brought to the brink of economic collapse by militant labour on numerous occasions over its long history. It is therefore a contention of this thesis that the capitalist 'owners' of multi-national companies have moved to adopt automation and technology-labour substitution as quickly as it has become available, precisely in a bid to free themselves from this recurrent threat of labour domination. Lin (2021), looking at the expansion of automated infrastructure in global supply chains, left little to the imagination when he noted:

> It affords an optic that shifts one's focus on the negotiations and interdependencies between humans and machines, to one that countenances the possible expulsion – or at least diminution – of the former within highly productive technocentric futures. (p. 2)

In the mining industry, no lesser personage than the President of Pilbara Operations for Rio Tinto admitted that:

> … in effect, mining would be simpler without human beings. We can plan ahead and schedule with much greater certainty with an automated system, than you can with the inherent issues that come along with people being involved. (cited in Ellem, 2017, p. 187)

Such a response to the threat of labour domination has situated large-scale mining today as a 'bellwether' in the corporate adoption of AI and robotics. With the first fully robotic mine scheduled to be operational in Australia by 2024 (Gray, 2019), mining is clearly indicating an automated future with a consequent substantial reduction in jobs.

It is the so-called 'digitalisation' of the economy, coined by Mahnkopf (2019) as 'cognitive capitalism', that has made technology-labour substitution possible on such an increasing scale. As Mahnkopf (2019, p. 6) explains, "digitalization means nothing more than a new level of automation, more precisely, the use of robots paired with AI". Today, such autonomous machines have been developed with the capability of programming themselves with no human input at all. An illuminating example of the scale of this development was provided by Daniel Susskind (2021), in the evolution of game-playing 'robots' between the years 1997 and 2017.

Mining the Future: Post-Market Society and the Capital-Labour Conflict

In 1997, an IBM system called Deep Blue beat world chess champion, Gary Kasparov. It achieved this through brute-force processing power. In 2016 a more sophisticated system called AlphaGo was developed to play the complex Chinese board game, *go*. It beat the best human player in the world in a five-game series using a different strategy. After reviewing millions of moves played by the best human experts, AlphaGo continued to learn by playing thousands of games against itself.

In 2017 an even more sophisticated version of the system was developed called AlphaGo Zero. It needed no input from human experts at all. As Susskind explained, "[a]ll it needed was the rules of the game. Given nothing more than those, it played itself for three days to generate its own data – and it returned to thrash its older cousin, AlphaGo (Susskind, 2021, p. 53).

Underlining this trend, Jung and Lim (2020, p. 1) highlighted that "as of 2017, the adoption of industrial robots in the world increased from about 80,000 a year to around 380,000, with a dramatic increase from 2010 onwards". Despite this dramatic increase there appears to be little consensus on how this will translate into job losses. Mahnkopf (2019) cites a 2016 report from the World Bank which assumes that almost 70% of jobs in developing economies which are using, but not producing robots and automation machinery, will be threatened by digitalisation. Frey and Osbourne (2017) estimated that in the US 47% of total employment is at high risk of being automated within a decade or two. A contrasting study, cited in Frank et al., (2019) concluded that only 9% of US employment is at risk of displacement. However, Frank et al., (2019, p. 6532) also noted that "Similar studies have looked at the impact of automation on employment in other countries and reached sobering conclusions: Automation will affect 35% of employment in Finland, 59% of employment in Germany, and 45 to 60% of employment across Europe".

Arnold et al., (2018) believe there are good reasons to assume that such pessimistic figures for automation vastly overestimate the number of jobs that will be lost to technological advances. They point out that not all tasks in a given job description can be automated. Machines may take over certain tasks, but there remain others that humans must still carry out, leading to an enhanced job possibility for humans, where machines assume the burden of the routine repetitive tasks.

Their optimism may be unfounded. Mahnkopf (2019) suggests that companies of the future will rely less on a permanently attached workforce, and instead will hire on demand. The human portion of the job tasks of the future are likely to comprise digital services which are farmed out in ever smaller parts to 'virtual labourers' using online platforms and technologies, with each task completed in seconds and remunerated by a few cents.

> Therefore, cloud and crowd-working (via Amazon Turk, Clickworker, Crowdflower, Microtask), but also forms of work-on-demand (such as Uber, Lyft, TaskRabbit, Handy, Wonolo) will flourish, both using online technologies to link supply and demand – and both will increase the trend towards casualisation of work and an informalisation of the formal economy". (De Stefano, 2016, cited in Mahnkopf, 2019, pp. 8-9)

In a recognition of the limitations of such speculative forecasting, Frank et al., (2019) examined the barriers inhibiting researchers from more precisely estimating the effects of AI and automation on the future of work. It is their belief that:

> [t]hese barriers include the lack of high-quality data about the nature of work (e.g., the dynamic requirements of occupations), lack of empirically informed models of key microlevel processes (e.g., skill substitution and human-machine complementarity), and insufficient understanding of how cognitive technologies interact with broader economic dynamics and institutional mechanisms (e.g., urban migration and international trade policy). (p. 6531)

They proposed that overcoming these barriers by improvements in data resolution will allow multidisciplinary research to "quantitatively monitor and predict the complex evolution of work in tandem with technological progress" (Frank et al., 2019, p.1). At present, they admit, data at this resolution is not available, and would require extensive modelling of jobs and skills in the labour market, as well as changes to privacy legislation to enable such modelling.

It is in a bid to avoid such data shortfalls and to minimise speculative forecasting that this thesis has focused on the mining industry in Australia. By adopting the mining industry as proxy to model the capitalist response of industry to the militant unionism of the 1970s and 1980s, this research provides a clear indication of the impact on employment of the early adoption of AI and robotics by the mining industry. As indicated by Frank et al., (2019):

> [r]ecent studies show that historical technology-driven trends may not capture the AI-driven trends we face today. Consequently, some have concluded that AI is a fundamentally new technology. If the trends of the past are not predictive of the employment trends from current or future technologies, then how can policy

makers maintain and create new employment opportunities in the face of AI? (p. 6535)

With a long history of early adoption of technology-labour substitution, the mining industry, as will be detailed in Chapter 6 of this thesis, initiated research into AI and robotics to replace labour as a direct response to the militant unionism experienced during the 1980s. In consequence, although as indicated by Frank et al., (2019), 'AI is a fundamentally new technology', Australian mining is presently in the vanguard of industries in the adoption of this new technology. With robotic trucks, trains, and drilling and blasting operations long underway, large-scale Australian mining has already blazed a pathway that is predictive of the future of technological unemployment by AI. This research examines the history of industrial relations across the mining industry that has led up to the possibility of a fully robotic mine shortly becoming operational in Australia. From the perspective thus gained, the research will extrapolate briefly the possible future consequences of technological unemployment for Australian society at large.

A Knowledge Gap

Karl Marx, in writing his magnum opus *Das Kapital,* represented society as being composed principally of just two socio-economic classes: the capitalist class or *bourgeoisie*, that owned the means of production, and the *proletariat*, or working-class, which the capitalist class exploited to extract surplus labour. Although a simplified model of society, even by 19th century standards, it served to illustrate Marx's central thesis of a class struggle in which the working-class would eventually and inevitably overthrow the capitalist class. Such an event, however, has to date neither occurred successfully, nor looks likely to occur in any foreseeable future. This suggests the possibility that a more detailed model of the myriad 'classes' and 'sub-classes' of which modern industrial society is comprised might, by a closer-grained analysis of their actions and interactions across the two case studies of the mining industry, achieve an understanding of the likely outcome of Marx's class struggle that, by all accounts, has so far eluded his simplified model. Accordingly, Chapter 2.2 following, investigates the structure of modern industrial societies with a view to better understanding both the nature and the potential outcome of the struggle between the classes.

Chapter 2.2

Community and Culture

Introduction

Chapter 2.2 reviews the literature relating to two key constructs of this thesis – community and culture. It explores their interconnectedness with a view to identifying the deficiency in understanding the root causes of the conflict between capital and labour, and therefore the need for this research. The chapter looks more closely at the nature of 'culture', and from the understanding reached, proposes a 'Culture Interpretive Theory'.

From early colonial days, mining has been contributing substantially to Australia's export income. Along with such high-value export commodities as wool and wheat, mineral exports have increasingly underpinned Australia's economic growth. Manufacturing industries, on the other hand, constrained by small domestic population and distance to overseas markets, had not developed beyond Import Substitution Industries (ISI) by the mid-twentieth century (Sadler & Fagan, 2004). Wherever mining developed in Australia, railways, ports, and support industries followed, while mining towns grew into sometimes substantial communities to exploit the mineral lodes (Blainey, 2003).

This presents a rich landscape from which to draw an understanding of industrial organisations and associated communities. The typical corporate structure of a hard-rock mining venture from late colonial times to the present necessitated capital investment, company management, and the employment of a wage-earning workforce. Such a configuration situates the mining industry as it has existed in Australia, as a useful proxy to investigate some of the factors affecting the development trajectory of industry in general, industrial relations conditions, and working communities, in an Australia that finds itself still heavily dependent on commodity exports in the 21st century.

Community: A Contested Paradigm

Historically, definitions of community have emphasised shared 'place', the 'neighbourhood' or the 'village', where a person's address is the principal criterion determining inclusion or exclusion (Walsh & High, 1999). Omitted in this simple definition are the cultural elements of community; the common interests, social ties, and

power relationships which regulate belonging or exclusion based on acceptable behaviour. Consideration of these cultural elements necessarily poses the question 'can a geographically bounded 'place' contain more than one community, and if so, is place even a useful criterion in the definition of community'?

Titz et al, (2018, p. 9) asserted that "[s]ocial scientists have never actually agreed on a definition of the concept of 'community'. As it is an ambiguous concept, the understanding of what constitutes 'community' has become confused". They cite anthropology as having extensively debated the nature of communities, mostly, however, as geographically bounded social groupings. In academia, the conceptual debate has evolved around two core elements: 1) social relationships, and 2) place, both as a defined territory and as a constructed space (Titz et al, 2018). Bradshaw has proposed that:

> The criterion for defining a concept like community is that it must be useful and distinguish things called community from other things that are not community. The reason for this effort is that place-based communities no longer encompass all the manifestations of community that we increasingly encounter when doing community development. What then is community? (Bradshaw, 2008, p. 9)

The United Nations High Commission for Refugees (UNHCR) has provided a definition of community that highlights the cultural elements and stresses inherent power relationships:

> 'Community' can be described as a group of people that recognises itself or is recognised by outsiders as sharing common cultural, religious or other social features, backgrounds and interests, and that forms a collective identity with shared goals. However, what is externally perceived as a community might in fact be an entity with many sub-groups or communities. It might be divided into clans or caste by social class, language or religion. A community might be inclusive and protective of its members; but it might also be socially controlling, making it difficult for sub-groups, particularly minorities and marginalized groups, to express their opinions and claim their rights. (UNHCR, 2008)

Noteworthy by its exclusion from the above is any reference to 'place' in defining community. Also notable is the possibility that a community might contain many 'sub-communities', presumably within the same geographically bounded 'place'.

Gemeinschaft and Gesellschaft

The emphasis on 'place' in defining community may have been first formalised by scholars' readings of German sociologist Ferdinand Tönnies (1887). His terms '*gemeinschaft*' and '*gesellschaft*' are usually translated as 'community', and 'society'

respectively. The concepts of gemeinschaft and gesellschaft, as developed by Tönnies compares the social organisation of a 'village community' and a 'market society'. According to Bradshaw (2008), Tönnies' gemeinschaft community was modelled on a traditional village with strong social ties among members, whereas his gesellschaft 'society' has been typified by the interpersonal alienation of an urban or industrial society where people are linked by roles rather than by relationships. It has also been read as the classic story of modernisation, with the evolution to a gesellschaft society being tied to the development of capitalism and the emergence of the North Atlantic market economy (Walsh & High, 1999), although this may surpass Tönnies' original intent.

Tönnies (2001) himself described gemeinschaft as being a collective of three parts: community by blood; community of place; and community of spirit. He elaborated further by aligning these to (1) *kinship*, (2) *neighbourhood*, and (3) *friendship or comradeship*, describing these as "the three pillars of community" (p. 204). It was conceivably in the interpretation of 'neighbourhood', that arose the historical significance given to 'place' in the definition of community. Tönnies, however, described neighbourhood as:

> … the general character of life together in a village. The closeness of the dwellings,
> the common fields, even the way the holdings run alongside each other, caus[ing]
> the people to meet and get used to each other and to develop intimate acquaintance.
> (Tönnies, 2001, p. 28)

It appears from this description that Tönnies' understanding of the significance of neighbourhood lay in the relationships fostered by the physical proximity of inhabitants in a typical village rather than by any virtues inherent in 'place' itself. He continued "[a]lthough it is basically conditioned by living together, this kind of community can persist even while people are absent from their neighbourhood …" (Tönnies, 2001, p. 28). Further diminishing the importance of 'place', Tönnies (2001, p. 29) stated "[o]n the other hand the comradeship of minds creates *a kind of invisible location, a mystical city and meeting place* which comes alive through the medium of artistic sympathy or creative purpose" (emphasis added). The significance of this statement by Tönnies seems to have been overlooked by Bradshaw who wrote:

> The potential of non-place community seems not to have figured into Tönnies'
> theory … he offers no additional insights into the potential for strong personal
> social ties occurring in non-place environments that are not based on traditional
> village social ties. (Bradshaw, 2008, p. 7)

What seems clear from Tönnies' description of gemeinschaft and his elaboration of 'the comradeship of minds' is that to him it was the communal nature of village life, the sharing of common fields and the proximity of living which developed 'the general character of life in the village' that became the defining element of gemeinschaft, rather than any geographical constraint; a 'community of practice', rather than one of place (Adell et al, 2015). Bradshaw, in overreaching to make his point stated "[p]ropinquity [of living] was necessary for bonding when travel and communications were slow and costly, but today this has been opened to vast distances between groups of people sharing a common bond. *Community is now separate from place*" (2008, p. 10, emphasis added). This author believes that it would have been more accurate to have said, 'community may now also exist independently of place'.

Culture and Community

'Community', it has been argued, is a cultural construct. Titz et al., (2018) described community as a cultural technology, while distinguished anthropologist and linguist Edward Sapir (1963, p. 515), writing of the "theoretical community of human beings known as society", maintained that "society is itself a cultural construct …". However, it may equally be argued that culture is a construct of community, as becomes evident in the following quotation from Edward Sapir:

> The true locus of culture is in the interaction of specific individuals, and, on the subjective side, in the world of meanings which each one of these individuals may unconsciously abstract for himself from his participation in these interactions. (Sapir, 1963, p. 515)

Without the interaction of specific individuals, there is no locus, and culture cannot arise. It is that same interaction that gives rise to community. Culture is a property of communities as communities are a property of culture, the essential process being explained by the philosopher Daniel Dennett in the following way:

> The sort of informational unification that is the most important prerequisite for our kind of consciousness is not anything we are born with, not part of our innate 'hard-wiring', but in surprisingly large measure an artifact of our immersion in human culture. (Dennett, 1995, p. 702)

Unless a human child is raised in a (human) community exhibiting a culture, culture will not arise in that person (Bronfenbrenner 1977; Eagleman 2015; Toomela 1996). It must necessarily follow that 'in the beginning', there was community.

Another of the attributes that makes both 'culture' and 'community' so difficult to define is that a culture/community complex is composed of groupings of 'sub-cultures'. The UNHCR definition of community, quoted in part above, continues:

> However, what is externally perceived as a community might in fact be an entity with many sub-groups or communities. It might be divided into clans or caste by social class, language or religion. A community might be inclusive and protective of its members; but it might also be socially controlling, making it difficult for sub-groups, particularly minorities and marginalized groups, to express their opinions and claim their rights. (UNHCR, 2008)

Such sub-communities, or sub-cultures, may be scarcely noticeable in a small pre-industrial society but become quite evident in a larger industrial society.

Anthropologist Julian Steward (1972) was one of the first to show that *cultural ecology theory* could be applied to the study of modern societies by the recognition of sub-cultures that are formed by what he termed 'cleavages' in the society. These are divisions formed by such distinctions as neighbourhood, ethnicity, occupation, class or caste lines, and religion. Even membership of a sporting association, for example, is sufficient to form an identifiable sub-culture within the society. Individuals may, of course, belong to several sub-cultures simultaneously (Figure 1).

Figure 1. *Illustrating some of the sub-cultures in a typical Australian mining community of the early 20th century.*
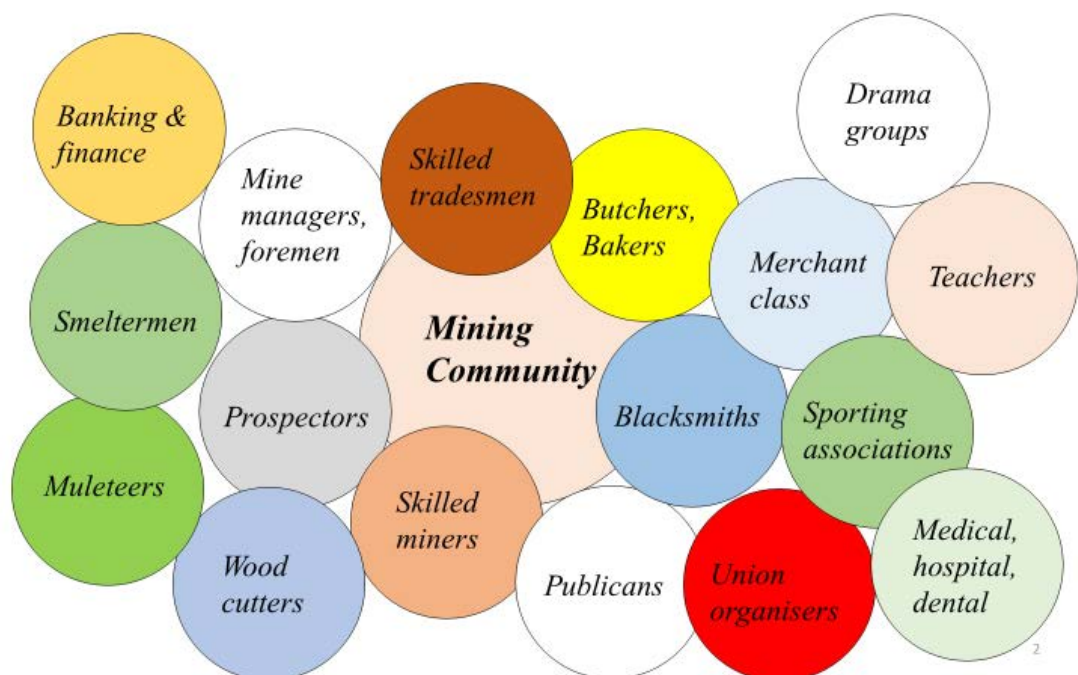
The Minimal Group Paradigm (MGP)

It may well be asked, how do such sub-cultures form, and of what importance might this be to social theory in general? The evolutionary strategy to favour members of one's family, known as kin selection, is an instinct inherited from our primate ancestors (Greene, 2014). This has been a most successful strategy for much of the nominal 300,000-year history of modern human development, as long as tribal members were genetically related.

The dark side of kin selection strategy is that along with our ability to cooperate with tribal members there has evolved the related potential for a marked hostility towards others who are not members of the group (Greene, 2014). So profoundly pervasive is this kin selection instinct that experiments have shown humans to have a strong propensity to form groups around even the most arbitrary of distinctions. Seminal work by Tajfel (1970) demonstrated that groups of English schoolboys formed strong in-group, out-group identification over even the most trivial and meaningless of distinctions.

The *Minimal Group Paradigm*, as it came to be called, has become a well-established finding in social psychology (Lynch, 2020; Jackson et al., 2019). It is this deeply shared tribal instinct to identify with in-group participants that gives rise to the identifiable sub-cultures of a complex industrial society, along with the inescapable potential of hostility towards those identified as not belonging to the group.

A Society of Communities

As a further consideration, the discernment of sub-cultures in a complex society places Tönnies' distinction between gemeinschaft and gesellschaft in a very different light. Google Books Ngram Viewer, one of the few sources available for the era, suggests that when Tönnies was writing in 1887 the term 'sub-culture' was not yet in common vogue, although he does seem to have anticipated the formation of what later came to be called sub-cultures. In outlining as his third criterion of gemeinschaft, 'friendship or comradeship', he noted that this was formed independently of kinship and neighbourhood, "being conditioned by and resulting from *similarity of work or opinion*" (Tönnies, 2001, p. 29; emphasis added).

In discussing *the town* (Ger., *die Stadt* = town or city), he stated "[i]nside the town certain characteristic institutions emerge – such as the craft union, guild or

corporation, and the fellowship or worship, the fraternity or religious congregation, these being the ultimate and highest expression of the idea of Community" (Tönnies, 2001, p. 36). Surely these are descriptions of the sub-cultures that might be expected to persist, even in a Gesellschaft society though it be ruled by market capitalist relationships. In the stead of the 'black and white' distinction between gemeinschaft and gesellschaft, it is evident that a complex 'market society', although perhaps ruled by gesellschaft, must consist of many sub-cultures of a gemeinschaft nature. It is herein proposed that such an arrangement may be more appropriately conceived of as a *'Society of Communities'*.

The 'Fabric of Society'

In such a 'society of communities', at least a few individuals in one 'sub-community' could be expected to have links to individuals in other 'sub-communities'. Individuals may even provide the link themselves by belonging to several 'sub-communities' simultaneously. Viewed from this perspective, such a 'fabric of society', the preservation of which so concerned Karl Polanyi, bears a striking similarity in its connectivity to an 'egalitarian small-world network' (Buchanan, 2002).

The study of such networks belongs to an area of scientific investigation known as 'complexity theory' (Buchanan, 2002). Investigators in this field have found that phenomena as disparate as national electricity grids, the internet, natural ecosystems, and the neural structure of a simple nematode worm, as well as the social systems of human beings, can be characterised by lines of 'communication' linking to 'nodes', all in a strikingly similar network pattern. In 1998, two investigators discovered that a particular configuration of semi-random links in such a network would confer upon it a 'small-world' character, in which each node is separated from every other node by no more than six steps (Figure 2). A small-world network in which each node has approximately equal connectivity to other nodes is called an 'egalitarian' small-world network, as opposed to an 'aristocratic' small-world network, which is characterised by fewer, and much larger, multi-connected hubs. An egalitarian network configuration is so inherently resilient that it was adopted by American engineers to design a nationwide communications network capable of surviving a nuclear attack. (Buchanan, 2002).

Figure 2. *A simplified 'egalitarian' social network between groups of friends. The addition of link 'X' illustrates the small-world effect, in which the distance between 'A' and 'B' is reduced from five to two steps by its inclusion.*
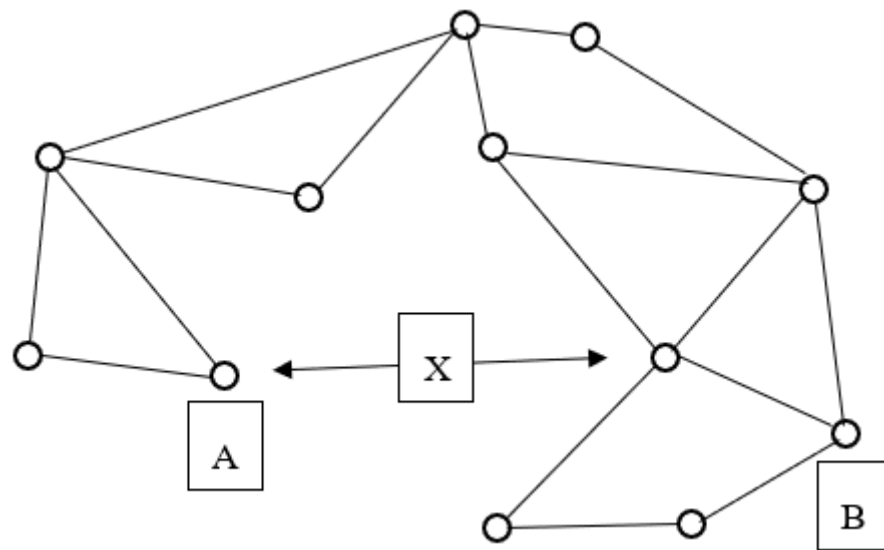
With human individuals in a society, each nested within the confines of their identified sub-communities and having links to other individuals in their own sub-communities within the society, such an arrangement is comparable to an egalitarian small-world network. In fact, it was demonstrated by Stanley Milgram's 'lost-letter' experiments almost 40 years before small-world connections were understood, that on a global scale, individuals in human society are connected by an average of only six 'degrees of separation' (Buchanan, 2002). It is therefore arguable that the 'fabric' of such a society might be capable of resisting all but the most determined assault by a militant capitalism.

Towards a Culture Interpretive Theory (CIT)

Social Class Theory, or Culture Theory?

Although research towards understanding the nature of this class dichotomy has traditionally been the province of Social Class Theory, the recognition of multiple sub-cultures in complex industrial societies opens the possibility of taking a cultural approach to such studies. As outlined in Chapter 2.1, in Marx's system of social class categorisation, he focussed his attention on the capitalist class and the working class as being the primary divisions of the production process. Although acknowledging the existence of other classes, Marx believed that the capitalist market tended to eliminate other non-capitalist classes, rendering them of lesser importance to his analysis (Barbalet, 1986).

Changes in the division of labour since the beginning of the 20th century have seen the emergence of an increasingly divergent middle-class. Professional and semi-professional positions that are not directly related to the production process such as managerial, technical, scientific, administrative, sales and accounts, have been designated as 'new' middle-class, to distinguish them from the 'old' middle-class of independent trade workers and merchants. From a Marxian perspective, however, given that this 'new' middle-class remains economically constrained to seek employment through the labour market, it is still plausible for social class theory to consider contemporary capitalist society as divided simply into employers and employees (Barbalet, 1986), although a considerable diversity will be obscured in the process. An attempt to capture aspects of this diversity by divisions into 'upper middle-class' and 'lower middle-class', 'unionised working-class' and 'unorganised working-class', or even Weber's 'status' divisions of class would seem to provide little clarification, leading some proponents of class theory to call for a renewal, "which would entail a wider and deeper concept of class" (Bottero, 2004, p. 986).

Building on these discussions of social class theory, this research proposes a Culture Interpretive Theory (CIT), which is based on the analysis of the observable behaviour and actions of sub-cultural groups identifiable in a complex society. Such observation may either be direct, as in a participant-observer ethnography, or indirect, based on a meta-ethnographical synthesis of existing case studies and ethnographies. The application of such a theory would allow for a greatly enhanced identification of relationships, including conflictual interactions and their underlying motivations, within Marx's bipartite capitalist society division into employers and employees.

In addition, an application of the proposed CIT to an analysis of the behaviour of each of the sub-cultures comprising such a society of communities would facilitate a more individual interpretation of their often-unstated motivations and their mental attitudes, as the groups interact in a social context. This allows the proposed CIT an advantage in the analysis of a society that is not accessible through traditional social class theory. The next section will look at how CIT has been evolved from Anthropology, Stewardian Cultural Ecology, Minimal Group Paradigm theory of Tajfel, and Organisational Culture Theory.

The Culture of Organisations

Capitalism, birthed in the upheavals that led to the Industrial Revolution of Great Britain, fell upon fertile ground in the United States of America (Kristol, 1975). By the latter half of the nineteenth-century, mechanisation of American industry had begun to have a major impact on the manufacture of textiles, iron and steel, machinery, and such production line processing as existed in abattoirs (Wright, 1993). The low productivity of workers under these mechanised regimes captured the attention of Frederick Winslow Taylor. Taylor became one of the principal architects of the *Scientific Management System*, an approach that sought to analyse and re-structure work tasks using time and motion studies. (Kreis, 1995).

Taylor believed that this scientific approach to task management would benefit both workers and employers. In practice though, it often contributed to the de-skilling of workers, who became little more than extensions of the machines they were tending (Wright, 1993). The repetitive, fatiguing work, even when tied to a bonus system, led to absenteeism and a high turnover of workers. That the human factor was being overlooked in scientific management was apparent early to the British, who in 1915 set up a committee of industrial psychologists "to consider and advise on questions of industrial fatigue, hours of labour, and other matters affecting the personal health and physical efficiency of workers in munitions factories and workshops" (Kreis, 1995, p. 69).

In the USA in the early 1930s, industrial psychologist and Harvard University researcher George Elton Mayo made a discovery that was to have far-reaching implications for the way work was organised. With colleagues Fritz Rothlisberger and W. Lloyd Warner, Mayo was researching the factors causing fatigue, monotony, and low productivity among female employees at the Western Electric company's Hawthorne Works near Chicago. The prevailing notion of work supervision at the time under the scientific management system was that individual human behaviour had to be suppressed and controlled, necessitating harsh discipline and tight production quotas (Sonnenfeld, 1985).

Mayo's Hawthorne experiments required separating small groups of women (n=5) from the main body of employees (n=200) to conduct the tests. In one early group, a productivity wage incentive scheme was instigated as well as variations in the

number and duration of rest breaks, resulting in a significant productivity increase. After complaints of inequity by other employees, the wage incentive scheme was discontinued for later test groups. A third group, segregated in a separate room increased productivity by 15% in the early stages, showing that the wage incentive given to the first group had not fully explained the earlier increased output (Sonnenfeld, 1985).

After further studies, Mayo's researchers concluded that it was the more relaxed and participative supervision during the tests and the freedom from strict discipline and rigid quotas that contributed to the increase in morale and productivity. Taking a closer look at status distinctions and social relations in the workplace the researchers found:

> … an unanticipated worker culture [that] was revealed through group norms and activities such as the restriction of output, informal leadership patterns, friendships, job trading, cooperation, and group discipline. (Sonnenfeld, 1985, pp. 113-114)

The researchers realised that depending upon circumstances, this informal culture could be either supportive of, or hostile to managerial intentions. This was one of the earliest realisations that human relations in the workplace could play a significant role in individual employee productivity, and by extension, the overall productivity of an organisation.

The application in the Hawthorne Works research of ethnographic field techniques by Warner, an anthropologist, and a former student of Malinowski, underscores the multidisciplinary background to human relations studies, and the early contribution of anthropology to the recognition of the role of culture in modern society (Morey & Luthans, 2013; Sonnenfeld, 1985). Harvard researchers were also responsible for the founding of the *Society of Applied Anthropology* in 1941, which was the first society devoted exclusively to the study of organisations (Arensberg, 1978; Whyte, 1969).

In 1949 William Foote Whyte published a study of *The Social Structure of the Restaurant*. Although he made no reference to culture, he effectively anticipated the sub-cultures of a restaurant in what he termed a social system consisting of interdependent parts, "structure[d] in terms of length of hierarchy, division into departments, and flow of work" (Whyte, 1949, p. 308).

The first use of the word culture in connection with organisations has been attributed to Elliot Jacques (Ott, 1989). Jacques stated:

> The culture of a factory is its customary and traditional way of thinking and of doing things, which is shared to a greater or lesser degree by all its members, and which new members must learn, and at least partially accept, in order to be accepted into service in the firm. (Jacques, 1952, p. 251)

Culture defined in this sense would seem to indicate that it is something that an organisation 'has' rather than something that an organisation 'is'; a distinction which was destined to give rise to much future discussion. To clarify that distinction, it will be necessary to define more closely just what is implicit in the word 'culture'.

Culture: Its Enigmatic Entirety

The term 'culture' was introduced to the English language in 1871 by founding English anthropologist E.B. Tylor in his major work *Primitive Culture*. Tylor defined culture in the following way:

> Culture or Civilization, taken in its wide ethnographic sense, is that complex whole which includes knowledge, belief, art, morals, law, custom, and any other capabilities and habits acquired by man as a member of society. (Tylor, 1958, p. 1)

Cole (cited in Potter, 1989, p. 17) remarked that "[a]nthropologists are quite certain about what they do not mean by the term; the problem centres on determining what it is". Indeed, Kroeber and Kluckhohn, in their 1952 seminal publication reviewed 164 definitions of culture without clarifying the concept, ultimately failing to establish a definitive usage (Potter, 1989). There have even been assaults on the very concept of culture from within anthropology, with Wolf lamenting in a *New York Times* article that "[c]ulture, once extended to all acts and ideas employed in social life, was now relegated to the margins as world view or values" ("They divide and subdivide, and call it anthropology", 1980). If the concept of culture is to continue to serve as a useful tool in the study of organisations or communities, a more concise understanding of the nature of culture is required.

Largely overlooked by posterity was a radical view of culture offered by American archaeologist Walter Willard Taylor (1948, p. 102) in which he asserted "[c]ulture is a mental phenomenon, consisting of the contents of minds, not of material objects or observable behavior". For Taylor, the contents of minds constituted a first-order phenomenon that is unobservable and non-material. Behaviour, which is observable but non-material constituted a second-order phenomenon, and it is only from

behaviour that a third-order phenomenon emerges in the form of artefacts and other forms of so-called material culture. Taylor (1948, p. 102) noted that "[t]his [third] order consists only of objectifications of culture and does not constitute culture itself".

It appears that there were two reasons for Taylor's neglect by posterity. The first was that he was unwise enough to offer a critical appraisal of influential senior archaeologists in his doctoral thesis. The second was his insistence that artefacts are not culture, but only objectifications of culture, which did nothing to endear him to the rest of the archaeological community (Watson, 1995).

Within the discipline of anthropology, one also finds the understanding that culture is principally a mental phenomenon. Edward T. Hall (1989, p.192) did not equivocate, stating that it was the European tradition of "the artificial separations of psychology and anthropology [that] produced a concept of mind independent of and divorced from a theory of culture. *What has been thought of as mind is actually internalised culture*" (original emphasis). Super and Harkness (1986, p. 547) asserted "[c]ulture, according to one major perspective in anthropology, resides in the individual mind; a theory of culture must therefore include how it gets there and how it functions there".

In fact, how it gets there is no mystery. The process is called enculturation. The philosopher Daniel Dennett, quoted previously and re-stated here, explained it in this way:

> The sort of informational unification that is the most important prerequisite for *our* kind of consciousness is not anything we are born with, not part of our innate 'hard-wiring', but in surprisingly large measure an artifact of our immersion in human culture (original emphasis). (Dennett, 1995, p. 702)

From this perspective what we have come to understand as mind (Dennett's 'consciousness'), is an artefact of the immersion of a (human) consciousness in a (human) culture. As also observed previously, so critical is this process in the formative years of childhood, that children who have been raised in a deprived cultural environment do not develop normally, even to the point of failing to acquire language in extreme cases. Anthropologist Clifford Geertz was in no doubt of the pre-eminence of human culture in fostering a normal human development:

> Without the assistance of cultural patterns he [man] would be functionally incomplete, not merely a talented ape who had, like some underprivileged child, unfortunately been prevented from realizing his full potentialities, but a kind of

> formless monster with neither sense of direction nor power of self-control, a chaos
> of spasmodic impulse and vague emotions. (Geertz, 1973, p. 99)

It would seem that without culture, there can be no such thing as human nature.

From *Organisational Culture* comes a similar theme. Hofstede (2001, pp. 1-2) defined culture as "the collective programming of the mind […] our software of the mind". Similarly, Schein (1992, p.16) spoke of the essence of culture as being "deeply embedded, unconscious basic assumptions". While Schein did not explicitly mention 'mind', the suggestion is evident in his explanation of this aspect of culture. Ogbonna (1992, p. 42), however, made specific reference to mind. He defined culture as "the interweaving of the individual into a community and the collective programming of the mind that distinguishes the members of one known group from another". Mohr et al., (2012, p. 217) building on the work of earlier researchers, defined organisational culture as tacit knowledge; "the set of mental models employees have about the organisation and its procedures". Anthropologist Edward Sapir would have had no argument with these definitions, stating that:

> The true locus of culture is in the interaction of specific individuals, and, on the
> subjective side, in the world of meanings which each one of these individuals may
> unconsciously abstract for himself from his participation in these interactions.
> (Sapir, 1963, p. 515)

From the foregoing discussion, there are two 'deeply embedded, unconscious' aspects of culture that come into focus: the first being that it is mental programming; and the second is the shared nature of that mental programming among participants.

Revisiting Tylor's (1958, p. 1) original definition of culture as "that complex whole which includes knowledge, belief, art, morals, law, custom, and any other capabilities and habits acquired by man as a member of society", it is apparent that of his listed criteria, 'knowledge', 'belief', 'morals', 'law' and 'custom', are mental programming, or the *contents of minds*. This positions 'capabilities and habits', and 'art', as outliers that signal the existence of other categories of culture that Tylor had in mind. Unlike Taylor (1948). who dismissed behaviour ('capabilities and habits') as only 'a second-order phenomenon' and artefacts as 'a third-order phenomenon', Tylor, in 1871 had included these two into 'that complex whole' of which culture in its entirety is composed.

Mining the Future: Post-Market Society and the Capital-Labour Conflict

Raymond Williams, in *Keywords: A Vocabulary of Culture and Society,* acknowledged 'culture' as being "one of the two or three most complicated words in the English language" stating that it had evolved into:

> … three broad active categories of usage … (i) the independent and abstract noun which describes a general process of intellectual, spiritual and aesthetic development [*the content of minds*]… (ii) the independent noun, whether used generally or specifically, which indicates a particular way of life, whether of a people, period or a group [*observable behaviour*] … (iii) the independent and abstract noun which describes the works and practices of intellectual and especially artistic activity [*artefacts*]. (Williams, 1976, p. 80)

Today, most scholars of culture acknowledge, as Tylor (1871) did, that culture in its enigmatic entirety consists of the contents of minds; the behaviour (or 'capabilities and habits') that emerges from the programming inherent in those contents; and the sublime reflection of the deepest underlying values and beliefs as they are made manifest in the art and artefacts of material culture. Such an understanding was endorsed by Schein (1992) in his three-layered representation of culture. In Figure (3), the author presents a model adapted from Schein (1992) that captures the thinking of these seminal authors, Hofstede, Schein, Taylor, Tylor and Williams.

Figure 3. *Culture in its enigmatic entirety (author's adaptation from Schein, 1992)*

Artefacts- visible organizational structures and processes (Schein 1992)

Observable Behaviour- the extent to which core values are enacted by employees of an organisation (McIntosh & Doherty, 2007)

Content of Minds- Hofstede's collective programming of the mind … software of the mind; Schein's basic underlying assumptions.
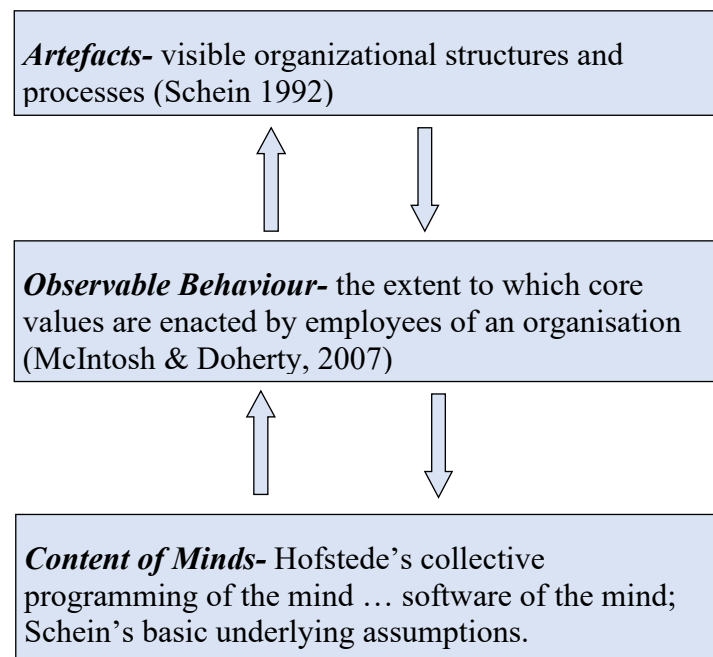
Culture Interpretive Theory (CIT)

Previously in this chapter, it was discussed how anthropologist Julian Steward (1972) had applied *Cultural Ecology Theory* to the analysis of a modern industrial society. It has been thought by some that cultural ecology theory could apply only to simple pre-industrial communities where a 'single culture' prevailed, having no place in the analysis of more complex communities (e.g., Balée, 2006). Steward (1972), however, showed that by a recognition and interpretation of sub-cultures in a complex society it was possible for cultural ecology to achieve a greater understanding of the relational dynamics of such a society. It was also shown, in the seminal work of Tajfel (1970), and by subsequent researchers, how such sub-cultures are generated in human societies through what came to be known as the *Minimal Group Paradigm* (MGP).

In the discipline of Management, the role of sub-cultures was also recognised in the work of George Elton Mayo. It was the personal acquaintance and intellectual stimulation of early anthropologists that led Mayo to the recognition of the role of culture in organisations (Morey & Luthans, 2013). From these beginnings, *Organisational Culture Theory* was subsequently developed by Schein, Hofstede and others, into a comprehensive understanding of the behaviour and motivations of groups and individuals in a modern factory or business environment.

Building on this foundation of Cultural Ecology, MGP, and Organisational Culture, this study extends the application of these lines of thought to an analysis of sub-cultural interactions in human societies through a synthesis that is here proposed as Culture Interpretive Theory (CIT). MGP theory described how sub-cultures arise, while anthropology has shown that communities (and societies) are composed of sub-cultures. Anthropology has also provided the understanding that the content, or programming of minds is internalised culture, while Schein's interpretation of organisational culture showed that although this unobservable mental aspect of culture is inaccessible directly to either bearer or observer of a culture, the 'basic underlying assumptions' or 'mental programming' of that culture are made manifest and open to interpretation through the observable behaviour, and the 'visible … structures and processes' of culture. (Figure 4).

Figure 4. *Culture Interpretive Theory. Showing input development from Minimal Group Paradigm (MGP) (Tajfel, 1970), Cultural Ecology (Steward, 1972), Anthropology (Tylor, 1958), and Organisational Culture (Schein, 1992).*
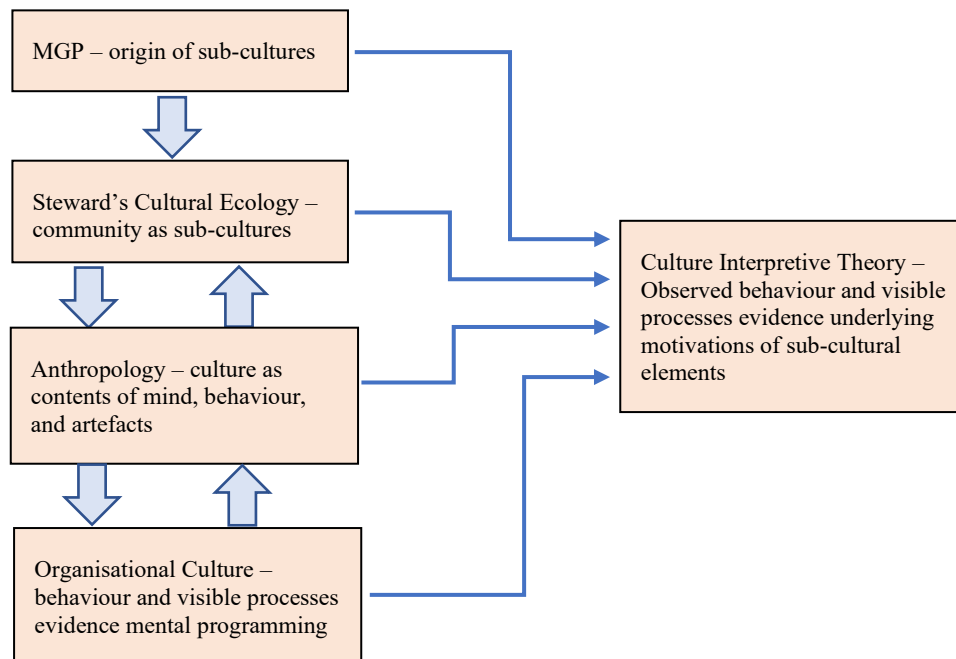
Some Limitations of CIT

When applied as in this study, to assist in the interpretation of a meta-ethnography of historical literature, CIT is naturally limited by the extent of detail of interactions between sub-cultural groups that has been preserved in the literature. When the information preserved is sufficiently fine-grained that individual actors can be identified, or artefactual evidence such as surviving company records, school attendance records, police and court proceedings, or homestead lease registers can be identified, then the resolution of observable behaviour available for analysis and interpretation will allow a much greater insight than if only the broadest descriptions survive. Despite this limitation it is believed that CIT offers a framework for potentially gaining insight into the 'basic underlying assumptions' of either contemporary or historical groups and individuals, that is scarcely achievable by other methods.

Chapter 2.3

Mining Communities in Australia

Having established that communities may exist independently of place, it is apposite to consider what role 'place', or indeed 'space', might have in community. Although much academic writing has been produced on the distinction between 'place' and 'space', it appears that the difference has yet to be resolved in a completely satisfactory fashion (Malpas, 2012; Massey, 1999). For the present purpose, however, this discussion will follow Tuan (1979), who proposed that it is the acquisition of definition and meaning that is the transformative factor, implying that space is a pre-existing entity to which place is subsequently appended. In other words, 'place' is 'space' that has been imbued with meaning by its human occupants.

It is hardly necessary to argue that there are many natural features of a landscape that might induce people to settle in the vicinity. A favourable slope ensuring sunshine and warmth on winter mornings; a mountain range for protection from seasonal winds; the presence of a watercourse with its alluvial soils for cultivation; even the proximity of a shady grove of trees to furnish fuel and building material. The confluence of several of these natural features is almost a certain guarantee that such a 'space' will become a community 'place'. 'Place', therefore, while not being essential to the existence of a community, may figure unavoidably in its initial establishment.

Nowhere can this be said to be more so than in the case of mining settlements. The overriding factor in determining the siting of a mining settlement is proximity to the ore body to be exploited. In Australia, with its well-watered coastal fringe surrounding an arid interior, this often meant the establishment of an isolated inland mining camp in which the necessities of existence were expensive and uncertain (Adams, 2007; Wailes & Allen, 2019). Surely, a more impoverished example of 'place' can scarcely be imagined than Kennedy's (1978), description of the early settlement of Broken Hill in the far west of New South Wales. He wrote of makeshift buildings of corrugated iron and timber lining dusty tracks that passed for roads, with garbage littering the footpaths. Blazing hot in summer and bitterly cold in winter, the perennial shortage of water and poor sanitation ensured that typhoid was seldom absent from the early population.

In time, however, providing the ore reserves were not depleted prematurely, such mining settlements might mature into societies distinguished by clusters of Tönnies' 'neighbourhood' communities, each united within itself by 'friendship or comradeship'. In practice, a society of communities with substantial public buildings, secondary employment opportunities in the town itself, windbreak trees to ameliorate the dust, and a reliable water supply and sanitation system to stem the tide of infant deaths. From an impoverished beginning, Tönnies' (2001, p. 29) "mystical city and meeting place" may crystallise out of the meagreness of an unpromising 'space' such as described by Kennedy, to become a society of communities, each imbued with meaning in the imagination and experience of its inhabitants.

Historical Development: The Copper Communities of South Australia

South Australia was the last of the colonies to be settled. Despite this, it produced the earliest base metal mines and the first mining settlements (Blainey, 2003). In 1841, silver-lead lodes were discovered in close enough proximity to Port Adelaide to be payable, followed in 1842 by rich copper deposits at Kapunda. Further copper discoveries at Burra-Burra in 1845, and on the Yorke Peninsula in the 1870s, saw South Australia eclipse Cornwall as the preeminent copper-producing region in the British Empire (Blainey, 2003).

Cornish miners who had been suffering under the 1837- 45 British trade recession (Stephens & Roderick, 1971) boarded ship in their thousands to migrate to the new discoveries. The South Australian Mining Association enticed these skilled hard-rock miners to settle in Burra-Burra with their families by providing cottages built in the stone-walled fashion of Cornwall. The provision of fresh meat, land for their chapels, health insurance, and a company hospital to nurse the sick (Blainey, 2003) allowed a Cornish 'community of practice' to flourish in the new surroundings.

An important cultural practice that the Cornish brought with them to Burra was a mining system known as 'tributing'. Mining under the tribute system employed two different practices. The tunnelling and sinking through country rock to expose the ore bodies were undertaken by miners working for wages. The highly skilled 'tributers' would then remove the ore, being paid at an agreed contract rate for ore 'landed on grass'.

Working in groups, the tributers would bid against other groups to establish a contract rate that they would work for. This effectively meant that the miners were competing against each other, with the result that industrial relations disputes were less common in Cornish mining communities (Blainey, 2003). The tributers enjoyed the freedom of being their own 'masters' and backed their skill and ability to efficiently remove the ore at a good profit. The tribute system, with some modification, was to have a lasting legacy in later Australian mining settlements.

In 1851, Burra's most profitable year, the community had swelled to five thousand people, with the overflow living in excavated caves along the creek bank. By Christmas of that year, however, news had come from Melbourne of the gold discoveries in Victoria, and Burra was left almost overnight to "old men and small boys" (Blainey, 2003, p. 113). The promise of being their own 'bosses', topped with the lure of the 'yellow metal', proved too much for the Cornish tributers of Burra-Burra.

Communities of 'the Diggings'

The Australian 'decade of gold' is seen by most historians, according to Blainey (2010), as being from 1851 to 1861. In reality, this was just the first phase of gold production in the Eastern states, but perhaps the one that was most qualified for the frequently applied rubric of 'gold rush'. It was during this period that hopeful immigrants flocked to the goldfields of Victoria and New South Wales in sufficient numbers to treble Australia's population (Blainey, 2010).

The practice adopted by the Victorian government was to allot the goldfields in tiny claims, from eight to twelve feet square (Hamilton, 2013). This allowed many thousands of individual licence holders to work the shallow alluvial deposits as self-employed miners, fostering an early egalitarian spirit on the diggings (Blainey, 2010). A typical goldfield population in those heady days was almost entirely male, with Hamilton (2013) noting that on the Ballarat field in September 1851 there were just ten women among 600 men.

In the haste to 'strike it rich' living conditions on the goldfield were neglected, prompting Hamilton to describe the scene as being:

> … like a frenzied anthill, with holes and tents everywhere and a steady roar from
> hundreds of rocking cradles, looked and sounded like a gypsy camp or a fair
> ground extending for miles until the holiday appearance was removed as one got

> closer. No fun of the fair, no laughing – no women – but rough men … rocking cradles with an earnestness you cannot imagine. (Hamilton, 2013, p. 140)

No doubt, contributing to the confusion was the prevalence of liquor on the diggings, with Hamilton (2013, p. 142) recording at least 22 hotels in Ballarat in 1854, and "sly grog shops without number". At the end of a day's work the diggers' two favourite pastimes were firing guns, which custom decreed to be carried out after dark; and felling trees, which led to widespread environmental degradation (Garden, 2001).

Amid such a desperate rough and tumble existence, largely bereft of the civilising influence of womenfolk, it is difficult to imagine the development of any sense of community on the goldfields. A typical experience might have been that of James Hoey, who with his family, devout Presbyterian immigrants from Scotland, "experienced alienation from his core cultural and religious values under the influence of the goldfields setting" (Jones, 2019, p. 462). Jones further comments that "the feverish pursuit of gold, with its unhealthy focus on easy moneymaking, distracted male family members in particular from their duty to live a righteous life in Australia" (2019, p. 464).

A further inhibition to any development of community might have been thought to exist in the presence of at least 20 different nationalities which made up the goldfield's population (Beggs-Sunter, 2008). And yet, in the face of the inequitable gold licence fee and its heavy-handed enforcement by police troopers in Victoria, just such a sense of community materialized during the miner's revolt at Eureka Stockade in 1854. This was birthed not from the exigencies of 'place', but rather from Tönnies' (2001, p. 29) "comradeship of minds", which came alive "through the medium of […] creative purpose". Such was the sense of creative purpose emergent at Eureka in 1854 that it has remained a powerful motivating factor in the communities of unionism and labourism down to the present day (Beggs-Sunter, 2008).

Corporate Mining Communities

By the mid to late 1850s, mining on the field was entering its second phase. Specks of gold had been noticed in quartz outcrops which were discovered to extend for sometimes great depths below the surface (Garden, 2001). Mining this resource required the sinking of deep shafts and the application of heavy steam-driven winding machinery and crushing plant. Such a significant undertaking was only possible after the formation of companies that could raise investment capital to finance the necessary machinery and

sustain a waged workforce. Not all goldfields had opportunity to take advantage of this transition, but centres such as Ballarat, Bendigo, Clunes, Stawell, Beechworth, and a few others, established profitable company quartz mining in Victoria (Garden, 2001).

Ballarat began in the same modest way as other early settlements, according to Hamilton (2013), with canvas, bark, and rough-hewn slabs initially solving the problem of accommodation. Widespread deep sinking and company mining after 1854 encouraged the development of support industries such as sawmills and brick-making plant, while merchant and professional classes soon became evident in the town. The necessity for substantial steam winding engines and pumps to control the water levels in the deep shafts saw the establishment of engineering works and foundries. By May 1854 Ballarat had 22 hotels, theatres, concert halls, and a circus. The railway reached Ballarat in 1862, by which time many of the timber buildings had been replaced with brick (Hamilton, 2013).

Sub-cultures in a Mining Community

By the late 1850s, Ballarat township had achieved a mature industrial mining community structure. With localised variations, such a complex community structure would be largely reproduced across Australia wherever capital-intensive mining was carried out, for the next 150 years. Steward (1972), applying *cultural ecology theory* to the analysis of complex communities, outlined the hierarchical system of sub-cultures that he identified as characterising such industrial communities. The overarching system of administration Steward (1972, p. 64) denoted the "National Sociocultural System". This was, in Australia, transplanted largely intact from Great Britain. It included the system of legislature and law, the government and bureaucratic administration, the educational system, policing and the military, organised religion, banking and finance, and commerce. Each, being the province of various special disciplines, used its own distinctive method, effectively forming administrative sub-cultures within the community. According to Julian Steward:

> The individual lives within [this] framework of a set of national institutions, but his non-economic daily activities are carried out within the context of a fairly small segment of society that consists of people substantially like himself and who therefore may [also] be said to have a subculture. (Steward, 1972, p. 66)

Immediately beneath this national administrative level in the hierarchical arrangement of sub-cultures and having significant influence over the fortunes of a

dependent mining community, were the absentee company directors, board members and shareholders. Living in capital cities such as Melbourne or Adelaide, they were largely disengaged from the quotidian affairs of the mining enterprise. The next lower level, resident in the community, comprised the mine managers and various supervisory roles. Allied to specialist smelter men, geologists and assayers, these were charged with the daily profitability of the company.

At a similar level, and supporting the town administration and businesses, came the magistrates, local politicians, police, mining wardens, postmasters and other professional classes. A further division may be perceived here, with the merchant class being responsible for the ancillary businesses and secondary employment of the community. Another division would have included skilled workers such as engine drivers, mill fitters, blacksmiths, wheelwrights, saddlers, tinsmiths, carpenters, stonemasons and brick makers, plumbers, perhaps even woodcutters, and charcoal burners. Arguably, also coachmen, teamsters, muleteers, and carters providing the vital transport needs would likely have been included at this level.

Among those who worked at the ore body were the independent miners and contractors who would not deign to work for wages, considering themselves a cut above the 'wages men' working for company mines. Skilled hard rock miners also considered themselves a class apart from the 'prospectors' and 'scratchers' who worked the alluvial gullies and deep leads after the rains. Yet another sub-culture emerged in the towns with the coming of the railways. Hard-working, hard-drinking, hard-fighting 'navvies'; mostly single men, who brought a frisson of rebellion to the pubs and the two-up schools they frequented after hours.

Together, these 'sub-communities' marked the divisions that comprised Steward's (1972, p. 66) "horizontal cleavages", separating a complex industrial community across occupational and class lines. Steward also identified 'vertical cleavages', cutting down through these horizontal cultural divisions, to further group the community by, for example, neighbourhood, ethnicity, and religion, as well as membership of political, union, or other organisations within the community. The hierarchical structure of such a mining 'society', with community sub-cultures often riven by conflicting loyalties, and with company management and a union-dominated

wage-earning workforce, was to serve Australia with little change until the late 20th century.

A New Frontier: The Company Town

"The mining frontier no longer seemed boundless at the end of World War II," wrote Geoffrey Blainey. "It seemed that the prospector with his pick and tin dish and waterbag and dollypot had found nearly all the valuable outcrops in the land" (2003, p. 333). In 1960, however, the Australian Federal Government, faced with discouraging overseas balance of trade figures, cautiously opened the door to allow the export of iron ore to the Japanese market, believing at the time that Australia possessed only limited reserves of the ore. The stimulus given thereby to prospecting was such that within a few years the massive Pilbara deposits in Western Australia had been discovered, paving the way for unprecedented infrastructure development in open-cut mines, heavy machinery, loading facilities, and rail lines to the huge iron ore ports built along the West Australian 'iron coast' to accommodate some of the biggest bulk ships in the world (Blainey, 2003).

In this isolated region of the Pilbara, some 1600 km north of Perth, mining leases were initially issued by the government subject to the provision that companies provide local community infrastructure, including suitable housing, roads, schools, medical and dental, and recreation facilities (Carrington & Hogg, 2011). This led, in many cases, to the establishment of 'the company town', in which some authors such as Eklund (2015), and Ellem (2003), believed that company management sought excessive influence over all aspects of life in the town, to the point of workers facing eviction from their housing in the event of a falling out with management.

Long-Distance Commuting (FIFO)

Further pressures came to bear on the industry when world demand for iron ore slumped during the decade 1978-1988. During this turbulent period, markets were able to dictate the price and conditions under which they would purchase the ore (Swain, 1996). Changes in government policy at this time, including the introduction of a fringe benefits tax on company-provided housing in 1986, contributed to an end to the company town period (Marais et al., 2018). Companies turned to fly-in, fly-out (FIFO) labour, a system under which workers resident in distant regional and capital cities were flown to the sites, domiciled in mining camps, and then flown out for their non-work

period (Ellem, 2005). This shift to FIFO practices has been interpreted by some researchers as another deliberate strategy by mining companies to weaken the power of the unions by denying them the mutual support of community association (Ellem, 2005; 2006).

Compounding these radical changes in work practices, the familiar working week was transformed with block shifts of twelve-hour days, usually in alternating periods of day and night shifts (Carrington et al., 2011). Local Pilbara townships, previously sustained by a dense network of acquaintanceships among the resident workforce, were bypassed as FIFO was introduced. Consequently, they have suffered significant deterioration in employment opportunities, schooling, recreation and sporting facilities, and other community infrastructure (Ellem, 2003; 2005; 2017).

Neither do the individual FIFO workers enjoy security of work. Often contracted and non-unionised, their position is continually under threat by the relentless drive towards automation of the mine sites (Martinez-Fernandez et al., 2012). Although well paid for the present, such a work regime could hardly be more damaging to family and community life. As Carrington and Hogg wrote:

> The routine separation from family, support and informal social controls and sense of belonging to a community can have seriously negative impacts on the wellbeing of non-resident workers and their families – among them suicide, family breakdown and violence, alcohol and substance abuse, and fatigue-related deaths and injuries. (Carrington & Hogg, 2011, p. 3)

No longer sustained by a *society of communities,* such a FIFO regime, herein proposed as existing in a *'post-gesellschaft society'* in which most links have been sundered, has but a tenuous existence. In a situation where the 'fabric of society' formerly connecting people has become fractured and uncertain, some within the industry have questioned whether such work regimes are sustainable in the long term (Carrington et al., 2011). However, with just 26 years of iron ore remaining in Australia at the current (2019) rate of mining (Summerfield, 2018) it is doubtful whether companies concern themselves unduly with the long term.

Mining was the first industry to achieve a 35-hour working week. It is therefore doubly ironic that with the return of the twelve-hour workday to the industry in the 1990s the clock was set back some one hundred years. The mineworker's vision of eight

hours work, eight hours recreation, and eight hours rest upon which to build a life, a family, and a community, has vanished like so much smoke.

Broadly recognisable in the foregoing description of *Corporate Mining Communities* is the definition of community offered by the UNHCR (2008). Re-stated here, this defines community "as a group of people that recognises itself or is recognised by outsiders […] that forms a collective identity with shared goals". In this instance, the shared goal is the desire to secure a living based on the profitable enterprise of mining. Beyond this superficial collective identity, however, lies the deeper reality of "an entity with many sub-groups or communities" (UNHCR, 2008).

FIFO workers, distinguished by the almost total lack of any community association at work, offer an even greater challenge when it comes to understanding and analysing interactions between the divided sub-cultures. With workers widely dispersed throughout regional centres during the non-work period, their experience of any sense of community is fractured into discontinuous fragments. The time at home with family, and the totally dissociated time at the mine-site where work occupies at least 12 hours of each day. Social class theory, with its traditional divisions into 'upper-class', 'middle-class', and 'working-class' can quickly become unwieldy in attempting an analysis of divisions between the isolated sub-cultures of such a '*post-gesellschaft* society.

Conclusion

Chapters 2.2 and 2.3 have researched the contested paradigm of community, and the various expressions of community evidenced in Australian mining since colonial times. The exploration found that 'communities' are fundamentally about relationships rather than locations. The recognition of the role of culture in the formation of communities, and that communities are signified by networks of relationships between community sub-cultures, suggested an approach that sought to distinguish these sub-cultures, and to interpret the interactions between them based on an observation of their behaviour.

Therefore, this research proposed the adoption of a CIT (Culture Interpretive Theory) which is predicated on the analysis of observable behaviour to reveal something of the 'basic underlying assumptions', 'mental programming', or internal motivations, of sub-cultural groups as they interact with each other in everyday social

situations. This is the understanding and the process that has been adopted in this research to facilitate a meta-ethnographical synthesis of literature recording the interaction of capital and labour in the mining community of Broken Hill in New South Wales, and of the iron ore 'communities' of the Pilbara in Western Australia.

It appears to be a feature of human societies, and certainly of capitalist societies, distinguished by a division of labour, that society sub-cultures have the tendency to assume a hierarchical arrangement. In the contemporary globalising world, it has become apparent that the governments and bureaucracies of Steward's (1972) 'National Cultural System' have been eclipsed in importance by the influence of transnational capitalism which had, until the late 20th century in Australia, managed to remain largely unremarked in the background. This system has since become so ubiquitous and powerful that it appears to have been able to influence decisions in parliament as well as which heads of state might be elected to best serve its interests (Ellem, 2017). It has also exerted influence on national employment levels and wage rates of workers with the assistance of government legislation (Bichler & Nitzan, 2017; Bowden, 2000; Peet, 2011).

In applying the theoretical approach of CIT to an understanding of the capital-labour conflict in mining communities in Australia it is necessary to take into consideration that the overarching culture dominating the Western world today is transnational capitalism, and that all subordinate sub-cultures including national governments and bureaucracies, operate within a descending hierarchy of interaction beneath its all-encompassing influence. The next section, 'The Rise of Capitalism and the Precipitation of the Working-Class' will provide an overview of the development of the capitalist system in the Western world from historic times to the present, giving a perspective of the influence of such development on society, and how society historically, has been mostly successful so far, in ameliorating the worst excesses of capitalism.

Chapter 3

Historical Review: The Rise of Capitalism and the Precipitation of the Working-Class

> The great merit of the capitalist system, it has been said, is that it succeeds in using the nastiest motives of nasty people for the ultimate benefit of society. (Robinson, 1941, p. 276)

> Capitalism requires not defence but celebration. Its achievement in creating high and rising living standards for the masses without sacrificing personal liberty speaks for itself … It is the instrument which people in all societies and stages of economic development instinctively use to escape from want and enrich one another by exchange. (Seldon, 2007, p. 20)

Introduction

Academic literature addressing capitalism has acknowledged that there are different varieties of capitalism across the world that have evolved as institutions in each country have adapted themselves to globalising pressures (Bruff, 2011). Two prominent examples are Anglo capitalism in the US, Canada, the UK, Australia and New Zealand, and the Rhenish capitalism model of Germany. These two are further distinguished by the Anglo model being designated "liberal market economies" (LMEs), in which markets are the primary governing factors; and the Rhenish model being described as "coordinated market economies" (CME), in which non-market collaborative relationships are important (Bohle & Greskovits, 2009, p. 360).

In his attempt at defining capitalism, Edsforth begins by stating what capitalism is not:

> Capitalism is NOT a structure or a system. Capitalist logic is NOT natural. Capitalist logic is a product of history. It is a human invention, NOT a set of natural laws discovered by the men venerated as the founders of modern economics (Smith, Ricardo, Malthus, et al.). Capitalist logic is neither moral or [*sic*] immoral. Capitalist logic is amoral. No society has ever organised all its human relationships and institutions according to the logic of capitalism. Therefore there is great variety among the societies that employ capitalistic logic. (Edsforth, 2012, p. 2)

It was perhaps Terborgh (1950, p. 118) who, following Marx and Engels, most succinctly defined the essential nature of capitalism as being "the private ownership of the means of production". Such private ownership as the possession of sufficient money capital to purchase free labour, and the private access to the necessary infrastructure and material commodities to effect profitable production would seem to satisfy the criteria

for a description of capitalism. These will be the criteria adhered to in the development of this thesis.

Arthur Seldon (2007), quoted at the head of this section, in describing capitalism as 'instinctive' has fallen into the oversight, pointed out by Wood (2002, pp. 2-4) of "assuming the very thing that needed to be explained". In presenting capitalism as the instrument adopted in all societies and stages of economic development, Seldon has also managed to gloss over the fact that capitalism is a relatively recent development in human society, which arose out of quite specific historical conditions (Wood, 2002). According to Marx (1887), the great majority of the population of England until the 15th century were free peasant proprietors living under the feudal system. The subsequent emergence of capitalism, far from being the inevitable or instinctive occurrence imagined by Seldon, was an extraordinary development that Comninel (2000) believed to be unique at the time to English society. Once having emerged under the historical conditions then prevailing in England, capitalism's internal relationships allowed it "to take root in any society that had private property, contract, trade, and other so-called 'bourgeois' social relationships" (Comninel, 2000, p. 43).

In 1836, James Bronterre O'Brien, in a commentary on capitalism, described what he called the 'working-class predicament':

> These two classes never had, and never will have, any community of interest. It is the workman's interest to do as little work, and to get as much for it as possible. It is the middleman's interest to get as much work as he can out of the man, and to give as little for it (as cited in Thompson, 1966, p. 822).

If this was indeed a correct exposition of the relationship between the classes, it may have been more accurately termed a 'predicament of capitalism' rather than of the working-class, and as such the question must be asked how was it possible for capitalism to have arisen at all under such circumstances? It was Max Weber's belief that there is an often-overlooked element that is indispensable to the proper functioning of capitalism.

Weber (1961) had thought that the emergence of a rationalised capitalism required five preconditions for its success. The first is that there must be a private appropriation of the means of production. Second, that labour must be free to be assigned to any work in response to demand. Third, trading in the market must not be limited by restrictions. Fourth, that there must exist a system of calculable law. The fifth and final element that

Weber (1961, p. 232) thought indispensable to the proper functioning of capitalism was "a lifting of the barrier … between internal and external ethics". That is, ethics, as practised towards one's own, as opposed to (a lesser standard of) ethics practised towards others. Only in the protestant West, Weber thought, was to be found "a religious basis for the ordering of life which consistently followed out must lead to explicit rationalism" (p. 233). Out of the system of this Calvinistic thought came the idea of a 'calling', which is:

> … activity carried on according to the rational capitalistic principle, as the fulfillment of a God-given task … This development of the concept of the calling quickly gave to the modern entrepreneur a fabulously clear conscience – and also industrious workers; he gave to his employees as the wages of their ascetic devotion to the calling and of cooperation in his ruthless exploitation of them through capitalism the prospect of eternal salvation, which in an age when ecclesiastical discipline took control of the whole of life to an extent inconceivable to us now, represented a reality quite different from any it has today. (Weber, 1961, p. 269)

In Weber's view, as long as the promise of eternal salvation could be held out to the working-class it could embrace its lot with equanimity. By the end of the early age of capitalism in the 19th century, this work discipline had lost its religious legitimation (Weber, 1961), laying bare the motivations of the capitalist entrepreneur who, no longer perceived as working for the glory of God, often sought to line his own pockets handsomely at the considerable expense of the working-class. The balance of power in this degraded form of capitalism, described by O'Brien as 'the working-class predicament', lay firmly with the employer, who felt himself free to hire on the cheapest market, and to dismiss all who did not please him.

Weber's contention that capitalism was assisted at its genesis by a protestant work ethic may have had some efficacy in particular circumstances, but examined dispassionately, it was in no wise necessary for the emergence of capitalism. The only pre-condition necessary for capitalism to become inevitable sooner or later was, as Marx, Terborgh, and even Weber himself have stated: *the private appropriation of the means of production*. Bichler and Nitzan, in their thesis on Capital as Power (CasP), have argued that:

> The primacy of power is built right into the definition of private ownership. Note that the English word 'private' comes from the Latin *privatus*, which means 'restricted'. In this sense, private ownership is wholly and only an institution of exclusion, and institutional exclusion is a matter of organised power […] What matters here is the right to exclude and the ability to exact pecuniary terms for not

> exercising that right. This right and ability are the foundations of accumulation.
> (Bichler & Nitzan, 2012, p. 77)

Once the land-dependant mass of the early agrarian population had been excluded from the means of production by the 'enclosure', or privatisation of land, the differential relationship between social entities conferred by the power inherent in the ownership or control of 'capital', forced the landless to labour at the pleasure of the 'capitalist'. Capital then is fundamentally power, and the only function left for Weber's remaining four 'pre-conditions' is to either facilitate or to retard for a time, the exercise of that power.

Karl Polanyi, writing *The Great Transformation* in 1944, argued that from a liberal economic perspective, for a truly functional capitalism to emerge required the establishment of a self-regulating market in which land, labour, and money are free to be traded as commodities. It was the subjection of these three, as he termed them, 'fictitious commodities', to the mercies of a self-regulating market that Polanyi was opposed to, believing that such a move would be destructive to human society. Echoes of his concern can be found in the more contemporary 'French Regulation School' of capitalism (Ruccio, 1989; Scott, 1988).

However, the sequence of events in historical England that led to attempts to establish a self-regulating market would seem to indicate that far from it being a carefully pre-conceived and executed plan, the unfolding of capitalism, at least in its early stages, was a product of happenstance in which none of the protagonists involved were capable of conceiving either its final form or its likely transformative effect on society (Lazonick, 1974). At its birth, capitalism was just one of a series of profound socio-economic changes that emerged in England from the 11th to the 20th centuries, doing so against a background of conquest, land enclosures, religious reformation and dissent, the Agricultural Revolution, agitation for parliamentary reform, the Industrial Revolution, the precipitation of the working class, and the eventual extension of the franchise to the common people.

Polanyi's 'Double-Movement'

Karl Polanyi (2001), in addressing the threat of market capitalism in *The Great Transformation*, proposed that market societies were constituted by two opposing forces. On the one hand, the *laissez-faire* attempts to expand the scope of the free market; and on the other hand, a resultant protective counterforce that spontaneously

emerges as elements in society move to prevent the attempt to establish such a market. Together it was these two that constituted the 'double-movement'. Although Polanyi did not elaborate on how this protective counterforce would arise, Bichler and Nitzan, in their thesis of Capital as Power (CasP), have given a plausible description of a social mechanism that would contribute to the emergence of the double-movement. The following quotation from their work illustrates how the excessive application of capitalist power to society elicits an increasing counterforce to negate or even to destroy that power:

> Capitalist power rarely if ever reaches its upper limit. The reason can be explained in reference to the following dialectical interplay: The closer power gets to this limit, the greater resistance it elicits; the greater the resistance, the more difficult it is for those who hold power to increase it further; the more difficult it is to increase power, the greater the need for force and sabotage; and the more force and sabotage, the higher the likelihood of a serious backlash, followed by a decline or even disintegration of power (Bichler & Nitzan, 2012, p. 4).

In formulating his thesis, Polanyi (2001) believed that prior to the nineteenth century human economies under the mercantile system were always embedded in society, being subordinated to politics, religion, and social relations. The goal of emerging *laissez-faire* capitalism in the nineteenth century was to turn this arrangement on its head so that "[i]nstead of economy being embedded in social relations, social relations are embedded in the economic system" (Polanyi, 2001, p. 60). "Such an institution" Polanyi maintained, "could not exist for any length of time without annihilating the human and natural substance of society; it would have physically destroyed man and transformed his surroundings into a wilderness" (2001, p. 3).

Contemporary Relevance of the Double-Movement

It was the misfortune of *The Great Transformation* to have been published in 1944, just as the Cold War was beginning. In the intense impasse that typified that era, there was little attention paid to Polanyi's complex reasoning. Since the ending of the Cold War era, Polanyi's work has been increasingly recognised as having an important relevance to present-day issues (Lacher, 1999). Nancy Fraser (2017) recognised that the relentless trend to extend and deregulate markets in today's globalising world closely mirrors the crisis that the world faced in the 1930s. Goodwin (2018, p. 1268) noted "Karl Polanyi has become a key reference point in debates over social, political, and economic change in the global South. The inspired critique of free-market capitalism that he developed in *The Great Transformation* has been particularly influential".

Lacher (1999, p. 313) stated, "[t]he work of Karl Polanyi has emerged as a major point of reference in critical theories of globalisation".

Through the lens of the mining industry in Australia, this research will consider if an application of Polanyi's work on market societies and the opposing double-movement theory may provide useful insights into the future development of industry and industrial relations in this country. The following section of this chapter gives an overview of the emergence of capitalism in its birthplace of England, and the events that led to attempts to establish a self-regulating market in Polanyi's three 'fictitious' commodities, land, money, and labour.

The English Feudal System

In 1066, in a dispute over succession to the English throne, William of Normandy overthrew Harold Godwinson, to be crowned William I of England. To secure his throne and to administer the land William established an enfeoffed aristocratic elite based in fortified castles and supported by a retinue of warrior knights (Douglas, 1939). Under this Norman 'feudal' system of government, the peasant farmers who had traditionally worked the land remained relatively undisturbed by the change in administration, continuing to render levied dues to their landlords, as had long been the custom of the land (Douglas, 1939). Patriquin (2004, p. 202) has described English society of the time as "organised in a pyramid form with a monarch and a landed elite at the top and a mass of people at the bottom, with funds flowing from the latter up to the former".

This traditional basis of society came under increasing threat during the 12th century when landlords began to take it upon themselves to 'enclose' land, essentially turning it into private property which they could then offer on lease or rent to the highest bidder (Allen, 1982; Cohen & Weitzman, 1975). The *'enclosure movement'* was motivated not by any thought of establishing a market economy, but by the short-term desire of the landlords to bolster their income (Allen, 1982; Thompson, 1966). Enclosures accelerated during the 14th and 15th centuries, precipitating a widespread eviction of peasants from the land. With land facilitating the primary means of production in an agrarian society, this privatisation of the ownership of land was, wittingly or unwittingly, the first step on the road to capitalism.

Capitalism begins: The Agricultural Revolution

The evictions of the enclosure movement resulted in an increasing number of vagabonds and landless peasants roaming the land. Alarmed, the Tudor and early Stewart monarchs moved to limit the extent of enclosures, slowing the process, and thereby lessening the extent of social disruption (Appleby, 1975; Polanyi, 2001). The enclosures, initiated by landlords with the sole intent of maximising their income (Allen, 1982) had two further consequences for the development of capitalism: The privatisation of land made it available to the market to be traded as a commodity; and by cutting the common people off from the means of production, also made them available as a reserve labour force.

These events, followed by a drive towards efficiency by a new class of tenant farmers, led to an Agricultural Revolution in rural England towards the end of the 15th century (Wood, 2002), which signalled the birth of the capitalist system. Under this social class triad system, the landlord leased the land to a capitalist farmer, who, by exploiting the wage-labour of the peasants, was able to enrich himself greatly. According to Marx:

> The continuous rise in the price of corn, wool, meat, in a word, of all agricultural produce, swelled the money capital of the farmer without any action on his part, whilst the rent he paid (being calculated on the old money value) diminished in reality. Thus they grew rich at the expense of both their labourers and their landlords. No wonder, therefore, that England, at the end of the 16th century, had a class of capitalist farmers, rich, considering the circumstances of the time. (Marx, 1887, p. 528)

Commodity Money

The commodification of money was also greatly facilitated when, in the so-called 'Glorious Revolution' of 1688, the Catholic monarch James II was deposed and replaced by his protestant daughter Mary II and her husband William III of Orange. Subsequently, the Bill of Rights of 1688 ended a century of dispute by confirming the primacy of parliament over the crown. This, according to Cameron:

> … constitute[d] a major turning point not only in political and constitutional history, but in economic history as well … The ease, cheapness, and stability of credit for public finance reacted favorably on private capital markets, making funds available for investment in agriculture, commerce, and industry. (as cited in Clark, 1996, p. 564)

In 1694, the commodification of money was consummated by the formation of the Bank of England. The bank acted as principal lender to the government, "ushering in a

series of financial developments now called The Financial Revolution" (Clark, 1996, p. 572). It was due to these fortuitous events rather than to any grand plan, that the scion of capitalism found itself in fertile soil in the fields of rural England, almost 70 years before the Industrial Revolution in which it is commonly supposed to have emerged. Of Polanyi's three 'fictitious' commodities, labour alone yet remained to be brought under the sway of the market. Events shortly transpired in Speenhamland town in Berkshire County which prevented that occurrence for a time, and so delayed a full emergence of market capitalism.

Speenhamland, 1795

From the late 16th-century, labour organisation in England of both agricultural labourers and artisans rested on a system of regulation and paternalism which included the 'Poor Law' and the 'Statute of Artificers'. According to Polanyi, these provided a code of labour that was administered locally in every parish, each of which:

> … had its own provisions for setting the able-bodied to work; for maintaining a poorhouse; for apprenticing orphans and destitute children; for caring for the aged and the infirm; for the burial of paupers; and every parish had its own scale of rates. (Polanyi, 2001, p. 91)

After the Restoration of Charles II in 1660, the 'Act of Settlement and Removal' was added "to protect the 'better' parishes from the influx of paupers" (Polanyi, 2001, p. 92). Together, these acts meant that people were not free to choose their occupations, nor were they able to relocate to another parish. In addition, they were forced to labour. The strict regulations with the labourer bound to his parish effectively acted against the formation of a national labour market at that time.

By the late 18th century, England was in the throes of transition from a rural to an industrial society (Elder, 1964). The need for greater mobility of labour in the industrialising north led to the Act of Settlement being partially repealed in 1795, allowing labourers to gravitate to the new industrial towns. This opened the possibility of a labour market being instituted on a truly national scale, which may indeed have eventuated, had it not been for the proclamation in that same year of the 'Speenhamland Law', which effectively prevented such an occurrence (Polanyi, 2001).

This wage supplementation system became established over about half of England, mainly in the rural southern counties (Speizman, 1966). At the time, generally higher wages applied in the mining and industrial north, so that the Speenhamland Law

was never extended to northern counties (Block & Somers, 2003). However, this left northern workers' wages unsupported in the event of any downturn in the economy.

In the south, the conditions of the rural labouring poor had been steadily worsening. This was caused by ongoing land enclosures, the rising cost of living, overpopulation, and war with France from 1793, causing great suffering even among the "able-bodied and industrious" (Block & Somers, 2003, p. 45). The particularly severe winter of 1794-5 sent the price of wheat soaring to impossible heights, with it becoming unobtainable in many places.

The justices of Berkshire at Speenhamland town in May of 1795, deeming it 'not expedient' for them to grant an increase in wages for day labourers, instead urged the agricultural employers to provide an increase in wages proportional to the rise in the cost of grain (Thompson, 1966). In addition, the justices granted support of wages, "in accordance with a scale dependent upon the price of bread, so that minimum income should be assured to the poor *irrespective of their earnings*" (Polanyi, 2001, p. 82. original emphasis). "No measure was ever more universally popular," wrote Polanyi:

> Parents were free of their children, and children were no more dependent upon their parents; employers could reduce wages at will and labourers were safe from hunger whether they were busy or slack; humanitarians applauded the measure as an act of mercy even though not of justice … (Polanyi, 2001, p. 84)

In the long run, in Polanyi's view, this 'right to live' as conveyed by the Speenhamland measures proved socially destructive. Labourers soon realized that their remuneration was no longer tied to their effort, and employers were able to obtain workers irrespective of how little they paid. The self-respect of the labourer eventually sank to the point that he preferred the poor relief to wages. "Under the new regime of the economic man, nobody would work for a wage if he could make a living by doing nothing" (Polanyi, 2001, p. 82). The right to live had become a death trap. The further effect of the Speenhamland Law was to prevent the establishment of a free labour market, so that the middle-class, following the Parliamentary Reform Bill of 1832, "forced its way to power, partly in order to remove this obstacle to the new capitalistic economy" (Polanyi, 2001, p. 82).

This is a remarkably underwhelming observation by Polanyi considering the content of his thesis and the far-reaching effects of this reform. What had occurred as a result of the Reform Act was that the independently wealthy members of the hereditary

landed class were largely eclipsed by the 'middle class', in effect by capitalist entrepreneurs and 'men of business' (Polanyi, 2001). The capitalist fox had overtaken the parliamentary henhouse, and henceforth the State would see to its natural interests, the welfare of employers, and at the considerable expense of the working-class.

By 1834 the paternalistic Speenhamland Law was replaced by The New Poor Law. Government spending on welfare dropped as a result "from a peak of 2% of GDP in 1820 to less than 1% of GDP through most of the rest of the century" (Lizzeri & Persico, 2004, p. 710). The New Poor Law provided that the physically helpless paupers, 'for the sake of humanity', be sent to the workhouse; the merely unemployed were to receive no relief at all (Polanyi, 2001).

The result of this New Poor Law was that for the first time, rural labour in the south of England found itself exposed to the mercies of the unrestrained market, which laid the final foundation for the emergence of *laissez-faire*, or unregulated capitalism. With the repeal of the Speenhamland Law in 1834, the paternalistic protection which had characterized the mercantile system passed into history. This signalled, according to Polanyi:

> … the true birthday of the modern working-class, whose immediate self-interest destined them to become the protectors of society against the intrinsic dangers of a machine civilisation. But whatever the future had in store for them, working-class and market economy, appeared in history together. (Polanyi, 2001, p. 105)

Industrial capitalism was ready to be started (Polanyi, 2001).

The Industrial Revolution

For the labouring poor, the administration of the public affairs of England in the late 18th century had changed little since feudal times. True, the authority of the king had been eclipsed by that of parliament in the Bill of Rights of 1688, but suffrage remained a privilege of the wealthy, with, according to Lizzeri and Persico (2004, p. 707), "some members of parliament [being] elected in boroughs with as few as 100 voters, while cities such as Manchester did not have any representative".

The common people, ignored and largely left to themselves, were by now composed of factory workers as well as farm labourers. They had for generations been gaining an education "by way of pulpit and Sunday School, the Old Testament and Pilgrim's Progress" (Thompson, 1966, p. 50). Those not yet able to read would, as Thompson (1966, p. 712) related, "go each week to a pub where Cobbett's editorial

letter was read aloud and discussed". The common people had begun to question the circumstances of their existence.

Across the Channel, the storming of the Bastille in 1789 gripped the attention of the propertied classes in England, who had reason to fear the growing Jacobin movement among the masses at home. Democratic agitation among the common folk was further stimulated by the publication of Thomas Paine's *Rights of Man* in 1791, and the formation of the radical reformist *London Corresponding Society* in 1792 (Thompson, 1966). Langton has drawn attention to the strong regional variation that prevailed in England well into the Industrial Revolution, with fragmented social movements and pressure groups becoming characteristic of various regions. He says, for example:

> In the South, predominantly in London, the movement was radical in political orientation, aimed mainly at political reform through the implementation of the Five Points, and its artisan leaders had considerable middle class support. But although the ideas of the London Working Men's Association and leaders like William Lovett were endorsed by Midland reformers, they were not shared in the North, where the movement was anti-Whig middle class. (Langton, 1984, p. 153)

The rhetoric of the London artisans, who spoke of 'parliamentary reform' and 'industrial progress' was of little relevance to the handloom weavers of the textile towns in the north as they struggled to sustain existence against the pressure of "rising prices, falling wages, rising unemployment, rising poor rates and falling levels of poor relief …" (Langton, 1984, p. 152). Rapid population increase in England at this time (Lazonick, 1974) had contributed to a 'reserve army' of unemployed that was the final requirement for the deregulated labour market that would allow laissez-faire capitalism to flourish in the north.

The 'Free' Labour Market: The Industrial North

The capitalist organisation of the woollen and worsted industries which began in the southwest of England, soon spread northwards to encompass the handloom weavers of Lancashire and Yorkshire. Prior to its arrival, the journeyman weaver was part of a domestic unit employing perhaps a handful of weavers and apprentices. With the arrival of the capitalists the independence of the journeyman weaver was broken down by degrees so that by the end of the 18th century, weavers were mere 'outworkers' employed by 'the great gentleman clothier', who might have as many as 1000 workers in his employ (Thompson, 1966).

Apprenticeship conditions were also being broken down in a corrupted 'rent-seeking' (i.e., profiteering) supported by parliament, that allowed a great influx of 'illegal' men (Thompson, 1966; Webb & Webb, 1894). Wage cutting was sanctioned "not only by the employer's greed but by the widely-diffused theory that poverty was an essential goad to industry" (Thompson, 1966, p. 277). Some of the least scrupulous employers took advantage of slowdowns in the market by forcing weavers to continue production, and then, with a return of demand, flooded the market with cheap goods, forcing wages still further down as a result.

The very cheapness of the weavers' labour achieved by this process allowed the threat of the introduction of machinery to be held over their heads for another twenty years. This forced many thousands of men who had previously been able to earn up to 30 shillings a week, to be reduced to a mere four or five shillings. Thompson (1966) recounts that there were two phases in this decline of the handloom weavers: the first was up until 1835 when the machine loom was only a threat; and the second, after 1835, when the power loom displaced hand products. It was in the first phase that the major decline in wages occurred.

For the first time in England, the wage-labour of the handloom weavers had been exposed to the mercies of an unregulated market, and the result was for them to be reduced to penury. "Each time their wages were beaten down, their position became more defenceless. The weaver had now to work longer into the night to earn less; in working longer he increased another's chances of unemployment" (Thompson, 1966, p. 280).

Edsforth (2012, p. 2), quoted at greater length in the introduction to Chapter 3 stated in part "*No society has ever organised all its human relationships and institutions according to the logic of capitalism*". The plight of the handloom weavers and wool-combers of North-West England from the mid to late 18th century until the mid-19th century, detailed briefly above, would seem to prove the exception to his thesis. The Speenhamland wage subsidies were never extended to the northern counties (Block & Somers, 2003) so that when the capitalist organisation of the weaving industry in the north established a power monopoly, there was no statute in place to ensure a minimum standard of living, and nothing to prevent wages from being forced progressively below subsistence level.

Mining the Future: Post-Market Society and the Capital-Labour Conflict

A *laissez-faire* 'free' market in labour, with no countering 'double-movement' available, proved to be every bit as destructive to the fabric of society as Polanyi (2001) would later observe. John Fielden, giving evidence to The Select Committee in 1835 declared:

> … that a very great number of the weavers, could not obtain sufficient food of the plainest or cheapest kind; were clothed in rags and ashamed to send their children to Sunday School; had no furniture and in some cases slept on straw; worked "not infrequently sixteen hours a day"; were demoralised by cheap spirits, and weakened by undernourishment and ill-health. (as cited in Thompson, 1966, pp. 288-9)

And should it be thought that the weavers comprised but a small group in society, Thompson (1966, p. 311) gives their number, estimated by the Select Committee 1834-5, as "800,000 to 840,000 [who] were wholly dependent upon the loom". The weavers were the largest group of industrial workers in England, measured behind only the agricultural labourers and domestic servants (Thompson, 1966).

In these early years of the Industrial Revolution, very few of the rewards of increased efficiency flowed on to workers. As John Kenneth Galbraith succinctly observed:

> It was the wealth of the new entrepreneurs, not that of their workmen, which was everywhere celebrated. Those who owned the new factories, or the raw materials or railroads or banks that served them, lived in mansions by which the nineteenth century is still remembered. Their workers lived in dark and noisome hovels, crowded on dirty and unpaved streets along which missionaries and social reformers ventured with some sense of their own courage. (Galbraith, 1998, p. 26)

Employers in this capitalist economy who showed consideration for their workers were inevitably driven to insolvency by those employers who were prepared to be ruthless. Under such an exploitative regime it was no longer possible for a journeyman to aspire to accumulate sufficient capital to achieve guild mastership. He had no choice but to hire himself out to capital. "Now begins the opposition of interest between employers and employed, now the latter begin to group themselves together; now rises the trade society" (Webb & Webb, 1894, pp. 24-25). The workers were beginning to conceive of themselves as a group whose interests diverged from those of the masters. A new identity was being forged. New links were asserting themselves across occupational groups to form a network of solidarity. The 'fabric of society' was being made anew. Of this genesis of the working-class Thompson (1966) recorded:

> When every caution has been made, the outstanding fact of the period between 1790 and 1830 is the formation of the working class. This is revealed, first, in the growth of class consciousness: the consciousness of an identity of interests as between all these diverse groups of working people against the interests of other classes. And second, in the growth of corresponding forms of political industrial organisation. (p. 194)

It was under these conditions that the Western woollen workers and Midland framework knitters appealed to the House of Commons against the new policy of buying labour, "like the raw material of manufacture, in the cheapest market" (Webb & Webb, 1894, p. 40). The beginning of a working-class identity had given a new coherence to the struggle against the abject conditions imposed by capitalist owners. Appeals to the generosity of those owners had proven fruitless; perhaps they would be receptive to a more militant approach.

The Organisation of Labour: The Trades Union

The years leading up to 1848 experienced ongoing commercial depressions. Throughout this period, and across the whole of Western Europe the labouring poor, as yet barely conscious of themselves as a class, were beginning to entertain the possibility of a society free from the "patriarchal rights and duties of social and economic superiors" (Hobsbawm, 1995, p. 38). In England, various combinations of trades had sought both wage security and social reform by amalgamation into 'one big union', culminating in the formation of the 'Grand National Consolidated Trades Union' in January 1834. (Webb & Webb, 1894). By 1848 the rising social unrest triggered a wave of short-lived revolutions across the European continent that swept away governments from France to Italy (Hobsbawm, 1995). Britain, already industrialised, managed to avoid this wave of socialist revolt bent on the overthrow of the capitalist order, although it may have been 'a close-run thing' at the time.

Thoroughly alarmed by these events, employers along with their natural ally government, had visited a series of disastrous defeats on the unionists which included the transportation for seven years of the 'Tolpuddle Martyrs' for attempting to form a union. Robert Owen's efforts at fomenting socialist reform "were met with equally unreasonable determination by the governing classes to keep the working men in a state not merely of subjection, but of abject submission" (Webb & Webb, 1894, pp. 148-149). The magnificent hopes with which the unionists had begun this period, in the end, came to nothing but despair and disillusionment.

From 1850 to 1860 in Britain, the next generation of unionists, in a more practical approach, abandoned all projects of Socialist Revolution.

> [They] set themselves resolutely to resist the worst of the legal and industrial oppressions from which they suffered, and slowly built up for this purpose organisations which have become integral parts of the structure of a modern industrial state. (Webb & Webb, 1894, p. 162)

In a period of steady commercial expansion, they were able to achieve financial soundness, a trained staff of paid representatives and a solid permanent membership (Webb & Webb, 1894). After the repealing of the Speenhamland Law and the advent of the New Poor Law had left workers at the mercy of the unregulated labour market, this new-found solidarity, and the rising profitability of the market gave trade unions a more even chance of preserving the working conditions of its members in the face of ongoing concerted attempts by employers to reduce those conditions.

The Antipodes

A penal colony would seem to be the least likely place in which to pursue the narrative of market capitalism. Nevertheless, Australia, founded in 1788 on convict labour swept from the gaols of England, soon became an indispensable part of the capitalist enterprise by producing commodities much in demand 'back home'. The rich grazing land across the Blue Mountains and the fertile black soil of 'Australia Felix' gave rise to a 'Squattocracy' of graziers who became wealthy on wool exported back to England. This provided work for shepherds as well as seasonal shearing work for wage workers. The subjection of the working-class to the governing elites was somewhat eroded in early settlement history by the relative scarcity of workers in Australia compared to overcrowded England (Lennon, 1989). This situation was further exacerbated by the gold rushes of the mid-nineteenth century as the 'diggers' left *en-masse* for the goldfields, with government and employers powerless to keep them at their 'jobs' (Blainey, 2003).

An increase in company mining in Victoria in the 1870s led to intensifying union activity as capitalist owners sought to break down workers' conditions. In 1882 W. G. Spence became the general secretary of the Amalgamated Miner's Association, leading numerous successful battles over wages and conditions (Spence, 2013). By 1890 the Australian worker had won conditions and wages never achieved back in the

home country (Howard, 1977; Maddock & McLean, 1984). This enviable situation suffered a reverse during one of capitalism's periodic 'busts' in the 1890s.

A world recession at that time was further compounded in Australia by severe drought (Butlin, 1958; Merrett, 1997, 2013), which hit Australia's commodity-based export income particularly hard. Speculation and over-investment in Australia through the 1880s had created an 'asset bubble' in Melbourne real estate, as investors rushed to cash in on the boom. In the best traditions of *laissez-faire* capitalism, banks lent money with abandon, until the inevitable free-falling asset prices signalled the end of the boom, triggering widespread failures of banks in 1891-92 (Merrett, 2013).

Birthed in Violence: The Political Turn

Capitalist employers, whose profits had been inconvenienced by the gains made by labour, took opportunity during the shortage of work caused by the recession. They mounted a ruthless and far-reaching campaign to break down the hard-won conditions and wages of the workers. During this violent exercise of capitalist power it should be no surprise to find that they were actively assisted by governments and police.

The unions proved unable to counter this orchestrated attack despite the series of great strikes of the 1890s, in which the possibility of armed violence and even civil war were an ever-present threat (Spence, 2013). Prompted by a demonstrated powerlessness in the face of such concerted opposition the unions, no doubt mindful of the capitalist 'coup' of parliament in 1834, sought redress through the political system by forming the first Labor Parties in Australia (Archer, 2007; Howard, 1977). As yet another manifestation of Polanyi's 'double-movement', this was to prove a significant milestone in the evolution of class conflict as the labour movement endeavoured to counter the collusion between capitalist elites and government. The new Labor Party, as a result, secured a favourable position to influence the advent of what would become known as 'The Australian Settlement'.

The 'Australian Settlement'

At Federation in 1901, the Australian Nation was founded "by practical men striving for income, justice, employment, and security" (Kelly, 1994, p. 1). Avoidance of a repeat of the violent class warfare of the 1890s in which civil war had loomed as a real possibility, was subsequently sought by these practical men through agreement between the three political parties then existing, along with manufacturers, and

organised labour (Woodward, 2005). The protectionist policy that emerged from this agreement, although never formally defined, has been coined by Kelly (1994), as 'the Australian Settlement'. Summarised by him under five headings: 'White Australia', 'Industry Protection', 'Wage Arbitration', 'State Paternalism', and 'Imperial Benevolence', this collective agreement was largely successful at underwriting industrial peace and class cooperation in Australia (Kelly, 1994; Lloyd, 2002).

The White Australia Policy platform is today synonymous with racism. At its inception, however, it was considered a necessary protection for Australian workers' hard-won conditions in the face of concerted efforts by market liberals to import cheap foreign labour (Balachandran, 2011; Markus, 1985). Wage arbitration was administered by an industrial court to ensure that workers were paid an agreed minimum wage, and manufacturing employers' profits were protected by a system of tariffs.

Australia's commodity exporters, however, principally mining companies and agricultural producers, still had to compete on international markets and purchase overseas machinery at tariff-inflated prices. The artificially high price of labour sustained under this scheme provided an early incentive for these industries to mechanise. Consequently, large-scale Australian mining companies today constitute the vanguard of industry and business in the adoption of mechanisation and automation afforded by the emerging digital economy.

The Great Depression

> But to-day we have involved ourselves in a colossal muddle, having blundered in the control of a delicate machine, the working of which we do not understand. The result is that our possibilities of wealth may run to waste for a time – perhaps for a long time. (Maynard Keynes, 1930)

On July 28th, 1914, the historical period known as 'the Hundred Year's Peace' ended abruptly with the assassination of Archduke Franz Ferdinand in Sarajevo, ushering in World War I. The gold standard for currency was abandoned as the belligerents scrambled to finance the war effort by whatever means they could. At war's end in November 1918, it became apparent that European nations had sustained terrible economic damage (Ahamed, 2011).

With financial disaster threatening it seemed imperative to reinstate the gold standard as quickly as possible. Australia, which had followed Britain in leaving the gold standard in 1915, reinstated it dutifully along with Britain in 1925. However, it

became apparent very quickly that the reconstructed gold standard behaved in a far less predictable way than had its pre-war counterpart. Global economic uncertainty increased during 1928 as steadily rising domestic interest rates in the U.S. curtailed overseas lending by that country (Eichengreen, 1996).

On October 24th, 1929, the New York stock market crashed, signalling the onset of the Great Depression. Australia, with unemployment already at 7% before the Wall Street crash, was to record one of the highest unemployment rates in the world over the years of the crisis, reaching 19.75% by 1932 (Gruen & Clark, 2009). As one of the first to abandon the gold standard after a forced devaluation of its currency in 1930, Australia would begin a halting recovery some three years earlier than the U.S. (Fishback, 2012).

The exact causes of the Great Depression are still debated. Jeremy Rifkin (1996) has attributed the slump to the technological revolution of the 1920s that increased manufacturing productivity and output at a faster rate than available demand could be generated. In largely concurring with this view John Kenneth Galbraith wrote "[t]he immediate although not the ultimate cause of depression is a fall in the aggregate demand – meaning in the purchasing power available and being used – for buying the output of the economy" (Galbraith, 1998, p. 89). When workers displaced by technology could not find other work in the stagnating economy, collapse became inevitable. Friedrich Engels, writing more than half a century before the depression, had long anticipated such an event when he stated:

> The ever increasing perfectibility of modern machinery is turned into a compulsory law that forces the individual industrial capitalist always to improve his machinery, always to increase its productive force … [but] the extension of the markets cannot keep pace with the extension of production. The collision becomes inevitable. (as cited in Rifkin, 1996, p. 25)

Although from this perspective collapse was inevitable, there is a substantial consensus that it was attempts to re-establish the gold standard after the war that was a major factor in prolonging the crisis (Bernanke, 1994; Bernanke & James, 1990; Eichengreen & Michener, 2004; Greasley et al, 2001; Gruen & Clark, 2009; Obstfeld & Taylor, 2007). Left remaining to be answered by this view is why, when it had worked so well as a currency regulator prior to WWI, did the gold standard prove so de-stabilising when it was reinstated in the interwar period? Eichengreen proposed the

explanation that in the pre-WWI period the working-class had possessed little political power or representation. He wrote:

> In many countries, the extent of the franchise was still limited. Labor parties, where they existed, rarely exercised significant influence. Those who might have objected that restrictive monetary policy created unemployment were in no position to influence it. Domestic political pressures did not undermine the credibility of the commitment to gold. (Eichengreen, 1996, p. 6)

By the first decade of the twentieth century, however, with the rise in union and labour political power, unemployment had become a significant social issue. The franchise had been extended to the working-class and the determination of wages and employment targets had become politicised. "When employment and the balance of payments goals clashed, it was no longer clear which would dominate" (Eichengreen, 1996, p. 9). The working-class was no longer prepared to suffer the consequences of an economic downturn that was none of their doing, and they had found a voice to say so.

The 'double-movement' that Polanyi was to observe while penning *The Great Transformation* in 1944 had proven an effective deterrent. His great fear had been that the market would prove destructive to society, but society on this occasion had shown itself to be equally as capable of countering market capitalism. Block observed:

> When he wrote *The Great Transformation*, Polanyi anticipated that the era of the double movement might finally have ended since much of the world had come to recognise the folly of organising human society around self-regulating markets. He imagined a new era in which humanity collectively chose to subordinate markets to political control. (Block, 2008, p. 11)

Polanyi's prophetic capacity, however, did not extend to predicting the advent of neoliberalism, which was to signal its emergence in Australia in the 1970s.

A Golden Era

From his observations during the early years of the Great Depression, economist John Maynard Keynes proposed a new economic policy. Outlined in his 1936 book *The General Theory of Employment, Interest, and Money*, Keynes maintained that expansionary government fiscal policy should be used to increase demand, thereby boosting growth in the economy and increasing employment during a contractionary phase of the business cycle. It signalled the beginning of a 'golden era' in Anglo-capitalist countries.

For 25 years after WWII, Australia experienced this golden age in which unemployment was around 2%, and inflation was 3%. This has been attributed to the adoption of Keynesian economics, and the post-WWII 'class compromise' in which labour acquiesced in capitalist power in return for an increasing standard of living and secure employment (Neilson, 2012). However, the 1970s saw the onset of high inflation and high unemployment that thwarted the best efforts of Keynesian policies, heralding the appearance of a new economic doctrine that came to be known as 'neoliberalism' (Sangkuhl, 2015).

The End of Certainty

By 1973 the first major cracks had appeared in the edifice of Keynesian economics. The OPEC oil price shock of that year signalled an end to the age of unbroken post-war prosperity, presenting a difficult situation for the newly elected Whitlam Labor Government. The governments' economic management proved unequal to the task presented by this new challenge, plunging Australia into a wages explosion, high inflation, and unemployment. Whitlam responded to this crisis with what Kelly (1994, p. 22) described as "a dramatic and electorally suicidal 25% tariff cut", the first axe to the root of the Australian Settlement, and the beginning of the end for Whitlam. The Fraser Conservative Government from 1975 proved no better at managing the economy, falling after a further wages explosion in 1983 caused double-digit inflation and the loss of 100,000 jobs.

The Hawke Labor Government came to power in 1983 as Australia was facing a severe economic crisis triggered by the globalisation of the world's economy. In this precarious climate the government moved to establish an agreement with the unions, the 'Prices and Incomes Accord', under which, in return for wages restraint, it agreed to deliver both jobs and moderate wages growth. To stabilise the economy the Hawke Government reduced trade barriers further and floated the Australian dollar. They also opened the economy to participation by foreign banks and generally freed up markets to allow for greater competition. (Cooper & Ellem, 2008).

The resulting international mobility of capital enlarged the market to a global scale, promoting intense national and international competition between companies and between workers. This facilitated the demise of work in the industrial sector of first-world countries like Australia, through the transfer of production to lower-wage,

developing countries. As a result, low-skill, low-wage service sector work has proliferated across Australia and other Western industrialised countries (Susskind, 2021). It is this neoliberal mode of production, and the growing population of workers surplus to capitals' requirements that has precipitated the present global wage 'race to the bottom' (Neilson, 2012). David Neilson observed:

> [t]he growing redundancy of labour on a global scale, linked with deepening international segmentation and labour market competition, divides and disempowers labour while also forcing wages down. In this environment a wedge is driven between employment and wages, and both income and employment insecurity are increased. (2012, p. 171)

It is indeed ironic that it was a government of the Australian Labor Party, a workers' party, forged in the crucible of the great Australian class struggles of the 1890s, that re-opened the door to market liberalism, thereby ushering in the next incarnation of *laissez-faire* capitalism. This serves as a reminder that, irrespective of the political roots of a government, engagement with the trappings of power and the vested interests of a capitalist establishment inevitably leads to a compromise of whatever high ideals they may have held while campaigning for office. One is reminded of the unreserved vitriol which George Dale (1976) directed at those labour members in Broken Hill whom he believed had betrayed their class:

> … what small-souled , conscienceless, time-serving opportunists stood there that day; with a brazen effrontery, that only the traitor and renegade can display, sentiments were mouthed that would mislead men much more worldly and of much wider experience than that possessed by many present … We have discovered that our hero-worship of the past has but landed us in the firmer grip of the exploiter, and that our misspent activity of a quarter of a century has but fattened the few real exploiters. (p. 14)

In dismantling protectionism while at the same time compromising with an enterprise bargaining system, the Hawke-Keating Labor Governments "establish[ed] the conditions for the decisive initiative of the next non-Labor government – full labour market deregulation" (Kelly, 1994, p. 671).

This was a challenge that the Howard LNP Government was more than ready to accept. In the twilight of the 20th century, as Howard busied himself with destroying the last of the Australian Settlement, transnational market capitalism was consolidating its position in Australia. Such manufacturing as remained in this country would now survive only by automating production, or by forcing its workers into ever closer wage parity with developing countries.

Mining and agriculture have fared rather better than manufacturing. Having never enjoyed the protection of tariffs under the Australian Settlement both were forced to mechanise early, and consequently, large-scale Australian company mining today constitutes the vanguard of industry and business in the adoption of mechanisation and automation in the emerging digital economy. It is important to emphasise that the present example of automation in mining is a representation of what might be expected for the future of automation in industry and business. The 'hollowing out' and job losses of middle-range employment across general industry and business in Australia at present are largely attributable to the neoliberal mode of global production networks (GPNs) which have outsourced Australian workers' jobs to low-wage countries (Neilson, 2012). Job losses in this country are only expected to accelerate further as industry and business follow the automation trail blazed by mining companies.

Such is the paradox of capitalism that in 500 years of ruthless competition, prone to 'asset bubbles' and recognizing neither friend nor foe, it has laid waste to countless less competitive rivals. It has reduced labour on occasions to poverty and wretchedness, created previously unimagined wealth, and given birth to an empire 'on which the sun never set'. In the crucible of penury and misery, it brought forth a new class of people from the masses: the working-class, who, finding strength in unity, epitomised Polanyi's double-movement to counter the power of a free-market capitalism corrupted by a 'rent-seeking' behaviour that threatened to tear society apart. In the tenuous balance that ensued, this new class was able to win for itself a share of the bounty of capitalism; sometimes more, sometimes less, against the capricious whim of unregulated accumulation. In the 21st century, it remains to be seen how the working class might continue to fare against this latest 'neoliberal' evolution of capitalism.

Chapter 4.

Methodology and Methods

Introduction

This research is based principally on a meta-ethnography of a body of literature comprising case studies, journal articles, and documents exploring the tensions between capital and labour within the mining communities of Broken Hill, New South Wales, and of the Pilbara district in Western Australia. By accessing a range of qualitative literature case studies and commentaries of each of these 'communities', and using an inductive reasoning approach, the study proceeds from broad observations to seek to discover an explanation for the recurrent and cyclical nature of these tensions.

This chapter introduces the selected methodology and methods for conducting the research, outlining the reasons for the selection of the methodology and methods. It then discusses how these have been applied, detailing the principal source documents used in each of the selected case studies. The chapter further discusses a document analysis on the extent and growth of the labour-hire industry in the Eastern Australian coal mining industry, and a series of semi-structured interviews with mining representatives, designed to triangulate across the first and second-order accounts of the selected literature sources.

The qualitative case studies in the selected literature relating to the two mining sites that are the principal subjects of this research were focused primarily on recording and understanding the human interactions in the communities. This suggested that the most appropriate methodology for conducting the research would be found within the interpretive paradigm. As methodologies within the interpretive paradigm were considered there emerged a further realisation that the first and second-order accounts in the source literature might lend themselves to an immersive ethnographic interpretive synthesis grounded in the epistemology of interpretivism and the methodology of ethnography, through the process of a meta-ethnography. Offering both a descriptive and potentially, a higher-order interpretive narrative, it was concluded that such an ethnographic approach to the interpretation of the recorded accounts presented the best opportunity of addressing the research questions.

The Methodology of Meta-ethnography

In the social sciences, Noblit and Hare (1988) acknowledged two major paradigms of research philosophy, positivism and interpretivism. Social science scholars today would recognise that these two have further diversified into post-positivism, constructivism, participatory action frameworks, and pragmatism, to name some of the more prominent paradigms. Without further descending into attenuation, the foregoing paradigms may be broadly distinguished by their preferred method of inquiry, with positivists and post-positivists favouring quantitative methods, while interpretivists, constructivists, and participatory action researchers favour qualitative methods. Pragmatists are somewhat of an outlier in that they are quite happy to adopt a mix of both qualitative and quantitative methods when it suits the requirements of their research (Kaushik & Walsh, 2019). However, for the purpose of this project we need go no further than the primary division recognised by Noblit and Hare (1988), into positivism and interpretivism.

While some positivists operate from a strict deductive logic to arrive at a hypothesis that can be tested, others look for the causative principles of social affairs through empirical study. Both, however, through the adoption of quantitative methods, seek cause and effect laws allowing a prediction of subsequent events from a knowledge of prior statistical relationships. The interpretivist paradigm, by contrast, using qualitative methods:

> … includes research that is termed *ethnographic, qualitative, naturalistic, hermeneutic, or phenomenological.* All these types of research are interpretive in that they seek an explanation for social or cultural events based upon the perspectives and experiences of the people being studied. In this way, all interpretive research is grounded in the everyday lives of people. (Noblit & Hare, 1988, p. 14)

As the main thrust of the present research is to seek an explanation for specific occurrences in the everyday lives of people at the cultural divide between capital and labour, it was decided that an interpretive research paradigm using qualitative ethnographic methods would best achieve this aim, hence the adoption of the methodology of meta-ethnography. In the same manner as a traditional ethnography, the adoption of a meta-ethnography allowed the immersion into events in the daily lives of the two protagonist groups, capital and labour, to draw out the respective experiences and the implications of events occurring from their workplace interactions.

First proposed by Noblit and Hare (1988), meta-ethnography may be used to synthesize existing qualitative case studies. They further explain:

> A meta-ethnography seeks to go beyond single accounts to reveal the analogies between the accounts. It reduces the accounts while preserving the sense of the account through the selection of key metaphors and organizers. The 'senses' of different accounts are then translated into one another. The analogies revealed in these translations are the form of the meta-ethnographic synthesis. (Noblit & Hare, 1988, p. 15)

In this context Strike and Posner offered the following definition of synthesis:

> Synthesis is usually held to be activity or the product of activity where some set of parts is combined or integrated into a whole … [Synthesis] involves some degree of conceptual innovation or employments of concepts not found in the characterization of the parts as means of creating the whole. (as cited in Noblit & Hare, 1988, p. 18)

The Meta-ethnographic Methods

Noblit and Hare (1988) identified a seven-phase procedure in the development of a meta-ethnography, further adding "[i]n practice, the[se] phases overlap and may be parallel" (p. 29). How these seven phases proposed by Noblit and Hare were applied to the Meta-ethnography of the selected mining communities is outlined below.

Phase 1: Getting started … the identification of an intellectual interest that qualitative research might inform.

By the late 18th century in England, the new capitalist basis for the ordering of society was largely completed. The dominance of this minority superintending class over the workers had been scarcely relieved by spasmodic government intervention, until the working-class managed to form themselves into a collective unionism to counter this capitalist threat. Such a collective organisation by elements in society against a perceived threat was referred to by Karl Polanyi (2001) as a double-movement, which he argued would spontaneously emerge whenever elements in society felt themselves threatened by unrestrained market forces.

The meta-ethnographies of the selected mining communities in this study explore the continuation of this power struggle as it has played out over the last 135 years in Australia. In this contest, power ascendancy has shifted between unions and management several times. In 1986, occurring almost simultaneously at Broken Hill and the Pilbara, the forces of capitalism appear to have delivered a mortal blow from which the ranks of working-class unionism in Australia have to date shown no convincing

signs of recovery. Despite this resurgence of a dominant capitalism, with all its apparent threats of a return to a 'free market' of unchecked working-class exploitation, there has been no sign to date of the emergence of a double-movement, as forecast by Polanyi (2001).

Phase 2: Deciding what is relevant ... will the research be exhaustive, or will it be targeted by a substantive interest?

The substantive interest of this research is the outworking of the antagonism between capital and labour. Given the implications of this antagonism for the future of industry development and employment in Australia in the 21st century and beyond, only monographs, journals, and sources that directly addressed this theme, or aspects of it, in the chosen mining communities were selected to maintain the focus of the research. Ultimately, five books and fourteen journal articles featured predominantly in the final Broken Hill synthesis, and four books and 24 journal articles formed the primary basis for the Pilbara synthesis.

Phase 3: Reading the studies ... requires extensive attention to details in the monographs, and how they inform your substantive interests.

Beginning with the earliest publication, each of the books in turn was read closely, recording themes relating to industrial action in the selected mining communities. The themes were initially arranged in chronological order of occurrence in tables (Appendices 1 and 2), to give an overall understanding of the main sequence of events in each study. Solomon (1959) was not included in the initial Broken Hill table as a copy of the book had not been procured at that stage. Relevant journal articles were added to the tables to extend the period of coverage to the present-day conclusion of the meta-ethnography. Following this, a more comprehensive analysis of both books and journal articles was undertaken in NVivo, by adopting an inductive approach in the selection of relevant nodes, which served the purpose of delineating the themes and interpretive metaphors found in the texts. Adhering to the research questions during this process ensured that an appropriate focus was maintained.

Phase 4: Determining how the studies are related ... create a list of the key metaphors and themes used in each account and juxtapose them.

Concurrent with Phase 3 above, the NVivo encoding guided by the research questions enabled the identification of key themes and metaphors centred around industrial relations at each study site. When combined with data from the chronological

tables this facilitated the comparison and synthesis of the key themes across each case (Appendices 1 & 2; Figure 5).

Figure 5. *Screenshot of NVivo coding of Broken Hill themes*

Name		Files	References
Arbitration		9	14
Class tensions		15	168
Community		5	19
Support for Companies		1	4
Support for Unions		4	12
Counterculture		4	6
Employers		7	13
Workers		12	55
Employers'		0	0
Property		2	4
Rights		2	8
Living conditions		7	25
Accident		5	6
Disease		4	12
Domestic		5	6
Mechanisation		3	13
Metals market		8	17
Fall		5	9
Ore problems		3	4
Rise		1	1
Religion (ethics)		2	12
'Soldiering'	⚭	5	18
Violence-Intimidation		1	1
Company		3	10
Police		4	12
Union		8	15
Wages-contract		4	9
Decrease		4	7
Increase		3	3

There have been more than a few authors, including Noblit and Hare (1988) in their seminal book, who have appeared to use 'themes', 'concepts', 'key ideas', 'lines of argument', and 'metaphors' almost interchangeably, and certainly without adequate definition. This author has regarded 'themes, 'concepts', 'key ideas' and 'lines of argument' as essentially synonymous and are defined herein as themes. The relevance and selection of themes was determined by reference to the research questions when reading the texts. Some examples of themes from Figure (5) are 'Arbitration'; 'Living Conditions'; 'Mechanisation'; 'Metals Market'; 'Violence-Intimidation'; and 'Wages-Contract'.

Interpretive metaphors are less easy to define. Some sources may not contain what might strictly be termed 'metaphors', but for practical purposes, this research has defined metaphors as less constraining than themes, in that nodes, again from Figure (5), such as 'Class Tensions'; 'Counterculture'; 'Employers Rights'; and 'Soldiering', may each stand for several themes that can be aggregated under that metaphorical head. The synthesis occurs as the narrative is constructed by combining the sense and interpretation of the themes and metaphors across the chosen texts, to arrive at the meta-ethnographical narrative.

Phase 5: Translating the studies into one another ... Compares both the metaphors and themes and their interactions in one account with the metaphors and themes and their interactions in the other accounts.

Noblit and Hare's *'translating the studies into one another'*, an exhortation that leaves much to the imagination, is perhaps more clearly rendered in Glaser and Strauss' (1967) 'constant comparative analysis', which Sally Thorne has explained in the following terms:

> This strategy involves taking one piece of data (one interview, one statement, one theme) and comparing it with all others that may be similar or different in order to develop conceptualisations of the possible relations between various pieces of data. (Thorne, 2000, p. 69)

Phase 5 was substantially enabled in this by the flexibility of NVivo to group the themes under nodes, which facilitated the comparison of metaphors and themes across the different authors, as well as providing a range of visual applications of the data (Figure 6).

Figure 6. *NVivo word cloud (Broken Hill) enabled visualisation of themes.*

Phase 6: Synthesizing translations … making something more than the parts alone imply.

Phase 7: Expressing the synthesis … choose a form suited to the intended audience, e.g., narrative form for an academic audience?

Phases 6 and 7 evolved during the crafting of the narrative, with reference to the themes and interpretive metaphors that emerged during Phases 4 and 5. Occasional recourse was also made to period newspaper articles, mining journals, parliamentary records, and other relevant grey literature to enlarge upon themes either barely alluded to or omitted from the coded monographs. These are all detailed in the Reference List.

As the meta-ethnography had a substantial temporal extension in the case of Broken Hill, continual reference to Appendix (1) was also required to direct the

evolution of this narrative. This permitted the observation of the cycles of industrial unrest, and the circumstances that promoted those cycles. For example, the 1892 timeline of Appendix (1) indicates that in that year the metal market was falling and that the companies had begun to strike the intractable sulphide ore, placing them in a difficult financial position. Cross-referencing to NVivo reveals George Dale's (1976) observations of the industrial unrest of 1892 under the NVivo 'Wages-Contract' node.

Dale also recorded circumstances contributing to the 1892 industrial action that were captured under the 'Class Tensions' node, as did Dickey (1966); Kennedy (1978), and Solomon (1988). Observations by various authors pertaining to the 1892 strike are also to be found under NVivo nodes 'Community-Support for Unions', 'Counterculture', 'Employers-Rights', 'Living Conditions', 'Metals Market', 'Soldiering', 'Violence-Company', and 'Violence-Union', all of which contributed to the crafting of the meta-ethnography. A continual cross-referencing between the Appendix (1) chronology of events at Broken Hill and the NVivo nodes allowed the meta-ethnography to be synthesised in a temporal narrative form spanning more than 100 years.

Broken Hill Monographs

For the Broken Hill study, six books recounting the history of the development of the Broken Hill mining community, along with fourteen journal articles (Table 1) investigating aspects of that history were selected. The books initially selected were: *The Rise of Broken Hill* (Blainey, 1968); *History of Broken Hill* (Curtis, 1968); *The Industrial History of Broken Hill* (Dale, 1976); *Silver, Sin and Sixpenny Ale* (Kennedy, 1978); *Broken Hill: 100 Years of Mining* (Koenig, 1983); *The Richest Lode: Broken Hill 1883-1988* (Solomon, 1988). Journal articles were selected based on a reading of the abstract and an assessment of their likely applicability to the subject matter at hand. A screenshot of NVivo coding for the Broken Hill monographs is shown in Figure (5).

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Table 1. *Journal articles used in the Broken Hill meta-ethnography*

Author	Title	Key Words
Adams, 2007	Labor's Volunteer Army: The 1916 Conscription Referendum in Broken Hill	conscription; Brookfield; crowd; L.V.A.; police; meeting; war
Dickey, 1996	The Broken Hill Strike, 1892	strike; government; miners; evidence; police; order
Eklund, 1999	Intelligently Directed Welfare Work? Labour Management Strategies in Local Context: Port Pirie, 1915-29	Port Pirie; labour; company; workers; welfare; industrial
Ellem & Shields, 1996	Why do Unions form Peak Bodies? The Case of the Barrier Industrial Council	union; council; industrial; trades; workers; body; barrier; peak
Ellem & Shields, 2000	Making a Union Town: Class, Gender and Consumption in Inter-War Broken Hill	local; union; class; women; town; workers; working
Flynn, 1988	Trade Unions and the Law: The Broken Hill Dispute	unions; companies; industrial; award; dispute; legal; award
Gregson, 2004	Defending Internationalism in Interwar Broken Hill	Broken Hill; labour; union; white Australia; worker; mine; movement
Hotchkiss, 1970	The Broken Hill Mines Agreement – A Study of Some Objective Factors in Industrial Negotiation	agreement; industrial; south; unions; negotiations; claims; rules; new
Kimber, 2001	A Case of Mild Anarchy: Job Committees in the Broken Hill Mines	committees; industrial; job; union; management; agreement
Laurent, 1986	Tom Mann, R.S. Ross and Evolutionary Socialism in Broken Hill, 1902-1912	Mann; barrier; truth; evolution; social; Darwin; socialist; socialism; society
Macnamara, 1999	White Cards/Black Feathers: The Political Gets Personal – Broken Hill, 1915	women; barrier; union; men; town; 1915
Shields, 1997	'Lead Bonus Happy': Profit-Sharing, Productivity and Industrial Relations in the Broken Hill Mining Industry, 1925-83	bonus; earnings; productivity; lead; profit; contract; price
Solomon, 1959	Broken Hill: The Growth of the Settlement, 1883-1958	Broken Hill; mining; population; area; settlement; water; growth
Taylor, 1965	Industrial Relations in the Broken Hill Mining Industry	industrial; mining; management; work; men; agreement

Pilbara Monographs

Surprisingly, the Pilbara meta-ethnography, although occurring within a more contemporary context, presented greater difficulties than had that of Broken Hill. The study was constrained by the smaller number of qualitative literature sources available covering the history of development. In retrospect, this is likely due to the Pilbara events being of very recent history, the importance of which has yet to be fully appreciated.

Of the four books able to be consulted, *Behind Workchoices* by Bruce Hearn McKinnon (2007) contributed just one chapter on Hamersley Iron, although it did provide useful background on the Rio Tinto company. The edited book *Essays in the Political Economy of Australian Capitalism*, *Vol.5* (1983) also contributed one chapter, *The Pyramid of Power: Transnational Corporations in the Pilbara,* by H. M. Thompson. The remaining two books, *The Pilbara*, by Bradon Ellem (2017), and *Strategic Choices,* by Pam Swain (1996), along with 24 selected journal articles and publications, formed the basis for the majority of the study (Table 2).

Table 2. *Journal articles used in the Pilbara Meta-ethnography*

Author	Title	Key Words
Andrew Robb AO MP, 2005	Workplace Relations from Keating to Howard	Workplace reforms; industrial culture; all staff workforce; flexibility' union movement
Vassily, 2018	Establishing Trade Unionism in the Emerging Iron Ore Mining Industry in Western Australia's Pilbara Region, 1965-72	Trade unions; Pilbara; iron ore industry; militancy; strikes; mobilisation theory; union renewal
Argent, 2013	Reinterpreting Core and Periphery in Australia's Mineral and Energy Resources Boom: An Innisian Perspective on the Pilbara	Pilbara; redistribution; marginality; staples theory; geographical political economy
Bulbeck, 1983	The Iron Ore Stockpile and Dispute Activity in the Pilbara	Stockpiles; disputes; demand; negotiation procedure; unions; management
Copeman, 1987	The Robe River Affair	Peko-Wallsend; over employment; Industrial Relations Commission; restrictive work practices
Dabscheck, 1987	New Right or Old Wrong? Ideology and Industrial Relations	H. R. Nichols Society; management militancy; Robe River; *Arbitration in Contempt;* legislative changes

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Ellem, 2002	Power, Place and Scale: Union Recognition in the Pilbara, 1999-2002	Union decline; management strategies; space, place and scale
Ellem, 2014	A Battle Between Titans? Rio Tinto and Union Recognition in Australia's Iron Ore Industry	Collective bargaining; mining; multinational companies; trade unions; union organising
Ellem, 2015	Unions, Community, Work and Family in Australia's Iron Ore Sector	Unions; iron ore; community; family; labour process; labour geography; labour history
Ellem, 2015B	Resource Peripheries and Neoliberalism: The Pilbara and the Remaking of Industrial Relations in Australia	Mining; Pilbara; neoliberalism; local unions; industrial relations policy
Ellem, Baird, Cooper, and Lansbury, 2005	Workchoices: Myth-Making at Work	Workchoices; industrial relations outcomes; bargaining; AWA's; deregulation
Frenkel, 1978	Industrial Conflict, Workplace Characteristics and Accommodation Structure in the Pilbara Iron Ore Industry	Strike-prone; employee turnover; decentralisation; exorbitant claims; labour rights; low trust syndrome
Garnham, 1995	Year Zero: Australian Labour Relations and Labour Law in 1994	Enterprise bargaining; unfair dismissal; award reform
Lee, 2015	Iron Country: Unlocking the Pilbara	Export embargo; prospectors and geologists; mining companies; China boom
Lynch, 2011 (unpublished thesis)	Organisational Change Management in the Australian Mining Industry	Organisational change management; Rio Tinto; Stratified Systems Theory; salaried staff employment
MacKinnon, 2013	Strategic Coupling and Regional Development in Resource Economise: The Case of the Pilbara	Global production networks; strategic coupling; regional development; regional economies
Smith and Thompson, 1987	Industrial Relations and the Law: A Case Study of Robe River	Company legal action; court action; Peko-Wallsend; restrictive work practices; few 'diehard unionists'; Supreme Court writs
Thompson, 1983	The Capital-Labour Relation in the Mining Sector	Conflict; militant union representatives; managerial hierarchy; frontier of control; trade union solidarity
Thompson, 1987	The Pilbara Iron ore Industry: Mining Cycles and Capital-Labour Relations	Mining cycles; capital-labour relations; development phases; shop floor control; militant convenors
Timo, 1998	Precarious Employment and Individual Contracts in an Australian Mining Company	Individual contracts; third parties; workplace flexibility; employment insecurity;

Tracy, 1994	The construction phase of the Pilbara iron ore industry 1965-1972: Workers, their unions and organising the industry	Pilbara; construction; unions; organising; contractors; wages & conditions; disputes
Weller, 2007	Power and Scale: The Shifting Geography of Industrial Relations Law in Australia	Scale; industrial relations; neoliberalism; legal geographies
Wood, 2000	In the Footsteps of Charles Copeman	Robe River; restrictive work practices; industrial action
Yuill, 1981	Power and Conflict in the Mining Industry	Industrial relations; balance of power; isolation; company towns; migrant workers
Yuill, 1987	Robe River – A Failure in IR and HR	Peko-Wallsend; confrontationist; Hamersley Iron; convenors; restrictive practices; human relations

Both Ellem (2017) and Swain (1996) dealt with the industrial relations history of the Pilbara iron ore industry from its early inception until union power was largely eclipsed by the companies. The fortunate fact that Ellem (2017) wrote principally from the union perspective, while Swain (1996) based her analysis on company sources, contributed substantially to the meta-ethnography achieving what it is hoped is a relatively balanced narrative. As had been done for the Broken Hill study, journal articles for the Pilbara study were selected based on a reading of the abstract and an assessment of their likely applicability to the subject matter at hand. A screenshot of NVivo coding for the Pilbara monographs is also shown in Figure (7).

Figure 7. *Screenshot of NVivo coding of Pilbara themes*

Name			Files	References
Arbitration			13	40
Class tensions			5	19
Community			14	57
Support for companies			1	1
Support for unions			1	3
Sustainability			2	12
Construction			5	13
Counterculture			2	8
Demarcation			2	13
Employers			3	13
Workers			9	56
Employers			6	15
Profitability			5	18
Rights			3	5
Strategy			25	205
Government action-inaction			16	84
Living conditions			7	12
Accident			1	2
Domestic			5	8
Mechanisation			8	12
Metals market			7	27
Fall			4	8
Power			13	158
Soldiering			5	11
The workers			2	4

Document Analysis

The accounts of Swain (1996) and Ellem (2017) of industrial relations events in the Pilbara do not continue beyond the end of the 20th-century. By this time the companies had conclusively regained the initiative, leaving the unions with little more than a token representation. In the massive open-pit iron ore mines of the Pilbara, in the two decades since this company victory, both automation and the casualisation of the workforce by labour-hire have continued to proceed apace. In 2017, Rio Tinto stated that "they will only use labour-hire in their [Pilbara] iron ore operations" (Hepworth, 2020, p. 23). Despite this, little union reaction or publicity appears to have been generated in the Pilbara from this action.

To continue investigating mining company strategy targeted to erode the gains made by workers during the 20th-century, it was necessary to shift the emphasis of this study to the Eastern Australian coal mining industry. Here, on the coalfields of New South Wales and Queensland, the Construction, Forestry, Mining, and Energy Union (CFMEU) has been fighting a determined rear-guard action against the companies' attempts at casualisation of the workforce. Consequently, a considerable amount of documentation of the conflict has been generated, the analysis of which is the subject of this section.

According to Denscombe (2021), such documents are valuable research resources in that they provide a permanent record and factual evidence of events. They have the added advantage that they are generally readily available on the public record and are not subject to observer or interviewer effect. A caution added by Denscombe (2021) is that document researchers need to be aware of the authenticity and credibility of documents examined. In assessing the reliability of documentary sources, it is advantageous to take into account who has prepared the document, and the audience for which it was intended. Representativeness is another criterion that should be addressed. When was the document produced? Is it still relevant in the present circumstances?

Accordingly, documents were selected for this research with these criteria in mind and based on a Google Scholar search using the terms 'labour-hire Australian Mining'. The documents selected for the first part of this analysis were four reports (two commissioned and two independent) addressing casualisation of the Australian workforce. The two independent reports were the ACCR (2020) report, and the

Australia Institute (2018) report. Of the two commissioned reports, the Deloitte Access Economics (2019) report was commissioned by the employer representative organisation, the Minerals Council of Australia, and the McKell Institute (2020) report was commissioned by the union organisation, CFMEU.

Three of the reports were specific to the mining industry, with the Australia Institute report addressing the issue of casualisation more broadly across industry. The four reports satisfied representativeness, spanning from 2018 for the Australia Institute report, to 2020 for the ACCR and the McKell Institute reports. The authenticity and credibility of the four reports was not in question as all are considered reputable Australian research institutions.

Three of the four reports included names of the authors as senior academics, with only the employer commissioned Deloitte report remaining anonymous. Addressing the reliability of the reports, there was broad agreement across the two independent reports and the union commissioned McKell Institute report, on both the extent of increased usage of labour-hire, and its depressive effect on wages. The employer commissioned Deloitte report disagreed markedly, possibly reflecting the bias of a government and industry sponsored stance that casualisation of the workforce was not an issue of concern. All four reports were subjected to a thematic analysis, the results of which are displayed in Table 9 (Chapter 8).

For the second part of the document analysis, eleven industry publications, journals, and union submissions were selected in the same Google Scholar search as the above reports. The documents were uploaded into NVivo 12 to allow identification of the themes on the prevalence and influence of labour-hire on the mining industry. Themes identified, as well as the publications selected are detailed in Table (10). Seven of the documents were published by the CFMEU, and the remainder by reputable news sources such as The West Australian newspaper; ABC News online; Independent Australia news online; and the Queensland Mining & Energy Bulletin. The CFMEU publications did not attribute authorship, while each of the news sources included author identification. No overt bias was immediately evident in the union publications. Themes identified in the grey literature publications are presented in Table 10 (Chapter 8).

The next section presents an overview of the approach taken for the semi-structured interviews with coal industry workers. These interviews serve to triangulate the above

document analysis and to either substantiate or refute the themes discovered. Triangulation of approaches to verify findings is recognised as an important part of research design (Tight, 2019).

Semi-structured Interviews

As opposed to a document analysis which gives attention to what has been recorded, or to the observational methods of a meta-ethnography, research interviews focus on *self-reporting* – "what people say they do, what they say they believe and what opinions they say they have" (Denscombe, 2021, p. 229). An interview potentially, can provide an intimate personalised view of the subject of enquiry that is not achievable by many other methods. As a social exchange, interviews are well suited to eliciting the underlying opinions, feelings and experiences of the interviewee, rather than a seeking after an elusive 'truth' (Denscombe, 2021). It was specifically in a bid to understand the 'lived experiences' of individual frontline workers in a coal industry undergoing a profound employer/employee relations transition, that a series of semi-structured interviews were proposed.

Mine employees were contacted with the help of the Mining and Energy Division of the CFMEU, which had offered to publicise this research through their Facebook page. There were initially about eight responses, with a further two being added due to the snowball effect. Each prospective interviewee was contacted via email to propose conducting the interviews online through the Zoom platform, and to secure their agreement to participate. The use of Zoom to conduct the interviews meant that the expense of travel was avoided. In addition, the online platform helped to reduce the potentially intimidating 'interviewer effect' (Denscombe, 2021).

Unfortunately, shortly after this encouraging beginning the coal mining districts in both Queensland and New South Wales were severely impacted by repeated flooding events, cutting off the flow of volunteers, and causing four prospective interviewees to drop out. Due to time constraints, the interviews subsequently proceeded with the remaining six participants, whose names were coded to preserve anonymity. Of these remaining participants, three were underground workers, two worked in open pit operations, and one was a retired supervisor who had worked at a Rio Tinto mine site.

As befitting the semi-structured nature of the interviews, the author began by asking the participant to relate something of their background and experience in the

mining industry. Interviews proceeded from there in a free-flowing style, with each interviewee seeming to settle quickly into a relaxed conversational mien. Occasional questions and prompts from the author maintained the discussion within the sphere of interest. The analysis of the interviews is documented in Chapter 8.

Chapter 5.

The Broken Hill Mining Community: A Meta-Ethnographic Synthesis

Introduction

Chapter 5 presents a meta-ethnographical synthesis of literature pertaining to the Broken Hill mining community. Presented in a descriptive narrative form, the synthesis brings together the different accounts of the development of industrial relations in the community, to achieve an interpretive element informing the research questions that is not evident in the source documents. Drawing from case studies, journal articles, and period newspaper articles, it begins with a background sketch of the discovery of the mineral lode, the establishment of company mining, and the particularities of the district and the ore body that contributed to the unfolding of the Broken Hill story. It then follows the course of industrial relations between the companies and the miners from the beginning of mining in 1885 to the final defeat of the unions by the companies towards the end of the 20th century.

Silver in the Barrier Ranges!

The Barrier Ranges in the far west of New South Wales were discovered in European history by explorer Charles Sturt as he passed through that arid country west of the Darling River in 1844. With the establishment of a few sheep stations in the area in 1866, rumours of gold began to filter back to the coastal cities of Adelaide and Melbourne, drawing parties of hopeful prospectors into the remote and desolate region (Blainey, 1968). The gold rumours proved to be unfounded, but in 1882 the discovery of a silver lode at Umberumberka led to the establishment of the small settlement of Silverton in that same year. Proclaimed a town in 1885, Silverton's population had by that time reached 3000 persons (Kennedy, 1978).

In the boom times of the mid-1880s, there was little talk of separate social class interests at Silverton. Kennedy (1978, p. 19) noted "[l]ike the gold rushes a generation earlier, silver mining at Silverton was a relatively democratic phenomenon with luck as the great leveller". In 1884 the Barrier Ranges Miners' Association was formed by a meeting of miners at de Baun's Silverton Hotel. Between the 200 to 300 men present, the following resolution was adopted:

> The object of the organization was to promote the mining interests of the silver fields by the close union and co-operation among the classes; to achieve this end the absurd antagonism which sometimes appears to exist between labour and capital was positively to be avoided. (cited in Kennedy, 1978, p. 19)

The presence of rich silver chlorides close to the surface at Silverton encouraged the formation of small groups or syndicates rather than big companies, fostering a camaraderie that Kennedy (1978) thought reminiscent of the goldfields. A further explanation for this egalitarian ethos at Silverton was also offered by Kennedy when he wrote:

> The pioneers of the Barrier shared one rather grim thing – their chances of survival in an unfamiliar and hostile environment were not high. Miners, storekeepers, captains, and clergy readily united to mitigate the worst effects of drought, isolation, and disease. In this manner the struggle for survival, which linked men together in a rough camaraderie, overshadowed for the present all lesser disagreements. (Kennedy, 1978, p. 20)

Broken Hill

In 1883, just as the mining boom in Silverton was gathering momentum, boundary rider Charles Rasp discovered the massive Broken Hill lode of silver-lead on the nearby Mount Gipps station, just eighteen miles from Silverton. Initially believing the black mineral appearance of 'the Broken Hill' to indicate the presence of tin, Rasp and six other employees of Mount Gipps station formed a syndicate to file a claim for seven blocks along the line of reef. The leases totalled almost two miles [3.2km] in length (Curtis, 1968), corresponding to blocks 10 to 16 on the accompanying map (Figure 8).

By 1885 the enormous extent of the lode of silver-lead was becoming evident, prompting the syndicate to float the Broken Hill Proprietary Company Limited (BHP) as a public company. Two thousand shares were offered in Silverton, Adelaide, and Melbourne (Kennedy, 1978). Blocks 10, 14, and 15 together with 16, were floated into separate companies by the late 1880s, with BHP retaining a shareholding interest in those companies. Blocks 11, 12, and 13 were held solely by the Proprietary Company (Blainey, 1968).

The Companies

To read George Dales (1976) account in the *Industrial History of Broken Hill* one could easily form the impression that BHP was the sole company mining the Broken Hill lode. In fact, Curtis (1968) lists nine other companies that were active on

Figure 8. *Plan view of the Broken Hill mine leases, 1920 (adapted by the author from Koenig, 1983, and Curtis, 1968)*
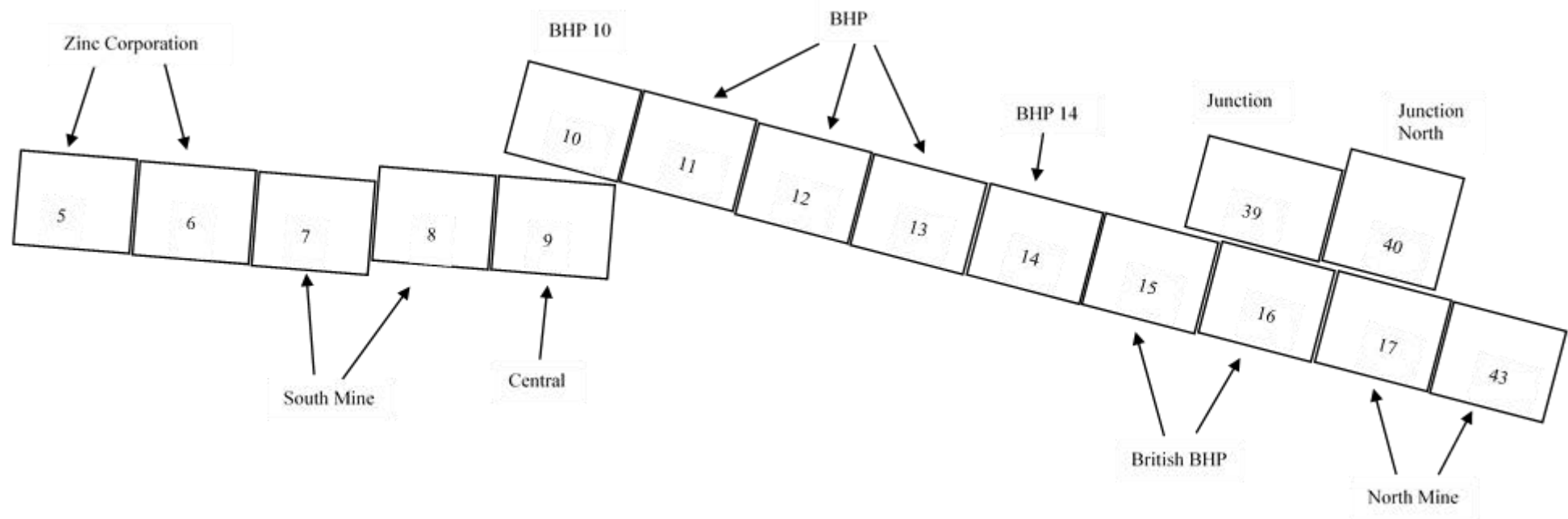
the field in 1908, but such was the dominance of BHP in the early years, occupying as it did the rich centre of the lode and employing by far the greatest number of miners, that it held complete sway in matters of industrial relations until 1908-9. The Collins House Group of companies, North Broken Hill, Broken Hill South, and later, the Zinc Corporation, struggled in the early years and could exert little influence on the dominant culture set by the Proprietary Company. Events after 1908 indicate the likely presence of a long-standing, but ineffectual counterculture to BHP amongst the Collins House companies.

BHP's first manager in 1885 was William Jamieson, a former government surveyor, who shortly resigned his position in favour of the more experienced Samuel Wilson. By 1887, the directors along with manager Wilson, recognising that the mine needed more skilful management, engaged W. H. Patton from the Comstock mine in Nevada, USA. In 1891, Patton was succeeded by eminent American metallurgist John Howell, establishing a pattern for the Proprietary Company of employing only the most experienced mine managers from around the world. In 1899, Guillaume Delprat became general manager, and perhaps the most renowned, providing a strong guiding hand through the turbulent years, until the company finally closed its mines and left the field in 1939 (Sawer, 1985).

This enlightened policy of paying top reward to the most skilful managers available ensured that during the company's tenure at Broken Hill, the BHP directors were able to promote a culture of top-down organisational control that allowed their successive managers to provide forceful leadership in a town in which the BHP mine was often referred to as 'The Proprietary' or simply, 'The Big Mine'. Such dominance by BHP for the first two decades of the life of the field was to have a profound and lasting influence on industrial relations in Broken Hill.

In 1908, with The Big Mine's ore reserves diminishing, leadership on the field passed to the Collins House Group of companies that were now coming into strong production. Comprising at the time North Broken Hill, Broken Hill South, Zinc Corporation and De Bavay's Treatment Plant among others, these companies on the deeper extremities of the lode would dominate the field for the next half-century (Ralph, 2004). Bringing a more conciliatory, welfare-based culture to a workforce that had become embittered by the hard-line confrontational management style of BHP, the Collins House group would reap their own harvest of industrial confrontation as the

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unions finally rose to dominate the town under their more benign governance (Kennedy, 1978).

The Miners

Miners were attracted to the Barrier district by news of the big strike. They came from Silverton as well as further afield from the declining copper mines of South Australia and goldfields of Victoria. While the bulk of those from the South Australian mines were most likely Cornishmen (Blainey, 1968; 2003), some idea of the eventual ethnic mix that ended up in Broken Hill may be judged by Beggs-Sunter's (2008) observation that the Victorian goldfields comprised up to twenty different nationalities, making for a rich cultural melting-pot.

Ever the optimists, the miners hoped to be in time to make a lucky strike of their own. Most were to find, however, that the lode had already been pegged out. Dominated by corporate interests, the only work available on the isolated field was to labour for a wage at whatever rate the companies were prepared to offer. Accommodation was primitive. Water was scarce and of poor quality, and fresh vegetables were an unheard-of luxury. Kennedy noted that:

> The earliest photographs show a town of flimsy wooden and iron boxes, each house with a privy at the back; the general impression is of an improvised and spartan mining camp – comfortless, austere, and physically impermanent. Young, ambitious men without families came to make their pile and leave. (Kennedy, 1978, p. 24)

Smelters erected in 1886 covered the town in a fine layer of lead dust. This contributed to the general squalor, driving men disillusioned by the unfamiliar routine of wage-mining to drown their disappointment in one of the many hotels springing up in the town. Discontent simmered just below the surface, occasionally manifesting in militant individuals such as Robert Griffin, first secretary of the Barrier Amalgamated Miners Association (AMA), who had provided the major impetus for the formation of that branch (Kennedy, 1978). A counterculture was beginning to develop that was antagonistic towards the companies with their absentee directors and shareholders, and the uncompromising managers in their fine houses in the town.

The Community

Broken Hill township ('The Hill' to residents), west of the Darling River and some 1160 km from Sydney, is in the arid zone, 220 m above sea level. The climate is

characterised by an average annual rainfall of 236 mm, with summer temperatures often reaching 40°C and an evaporation rate of 2800-3200 mm per annum (Jones, 2011). Records left by historians and ethnographers describe dust storms as a frequent occurrence, which the mining operations intensified by felling the sparse native vegetation for fuel and mine timbers. Regrowth of the vegetation was prevented by feral rabbits resulting in a dreary landscape of drifting sand that piled high against fences and buildings. Rough houses of corrugated iron interspersed with tents lined the wide dusty streets with garbage accumulating unchecked along the footpaths (Kennedy, 1978).

A rapid increase in population as hopeful miners flocked to the field underlined a precarious water supply, creating serious problems of hygiene and sanitation. Poor understanding of disease transmission gave rise to periodic epidemics of typhoid during the long spells of dry weather. Kennedy records mortality rising from 14 deaths per 1000 people in 1887 to 39 deaths per 1000 in 1888. The establishment of lead smelters in the town led to numerous instances of lead poisoning among the populace as the fine lead dust blanketed the town. Many cases of lead poisoning in these early years must have remained undiagnosed (Blainey, 1968). Animals, in particular, were affected, it being impossible to keep chickens or grazing animals in the town.

A rude shock awaited those skilled Cornish hard-rock miners who found themselves in Broken Hill after 1885. Having experienced the enticements offered at Burra-Burra, where they had been provided with Cornish stone-walled cottages, land for their chapels, health insurance, and a community hospital to nurse the sick, the bleak galvanised iron shacks of Broken Hill spoke of companies that placed little value on their workers. In these initial years, it was mostly a town of hardy young men, bent on making a fortune as quickly as possible so that they could retire to spend it in the coastal capitals, just as the 'Broken Hillionaires' of the founding 'syndicate of seven' had done (Kennedy, 1978). And if a few of these should fall victim to circumstances along the way, it mattered little to the companies.

Despite this difficult beginning, Broken Hill prospered on the rich mineral deposit, becoming eventually, like many another successful mining settlement, a township of substantial public buildings and private businesses. Curtis (1968, p. 103) describes the Broken Hill of 1908 as "a fine city, with many handsome buildings, with wide streets, and some beautiful private residences, erected of late years, and owned by

those whose business necessitates their residence in the town". Although the principal business of the town was mining, in his 1908 History of Broken Hill Curtis (1968) numbers the leading business houses of Broken Hill at 46, which, along with the town's administration and service requirements, provided substantial secondary employment to citizens.

The numerous clubs, associations, friendly societies, and lodges that blossomed in the town indicate that by 1908 Broken Hill had indeed become a mature 'society of communities'. Community spirit was strong in the town, even in the early days, and both company and union soon learned that to have the goodwill of the townsfolk might be the determining factor in the event of any dispute between them (Kelly, 2002). With establishment difficulties overcome, the township had become a 'community of place', as well as one of 'practice'.

The Ore Body

A further influence on both the relative profitability of each of the mines and inevitably, on the industrial relations of the town, was the configuration of the ore body itself. This was described by Kay Koenig as:

> … approximately 8 km long, and coat-hanger shaped. Outcropping in the centre, it plunges to more than 1.5 km in depth at the northern end. The oxidised zone with its high silver content, was thickest in the centre and shallowed to the northern and southern ends. It had a maximum depth of a little over 100 m. (Koenig, 1983, p. 5)

The central section, dominated by BHP, comprised a heavily oxidised mineral layer close to the surface from which the silver and lead were readily won. In the blocks to the north and south, the ore body dipped away to a much greater depth, being characterised by a meagre layer of oxidised ore over a more problematic deeper layer of sulphide ores. The differences in profitability that this conferred on the field meant that the smaller mines struggled in the early years. The South Mine was not able to pay a dividend until 1897, and the North Mine paid its first dividend in 1899 (Blainey, 1968). The 'Big Mine', by contrast, paid £200,000 in dividends in its second year (Koenig, 1983).

The fact that mines working along the same line of lode varied so greatly in profitability at different stages of their development is central to an understanding of the industrial relations difficulties that developed in Broken Hill. Contrary to what might

have been the preferred inclination of the individual companies, the unions insisted on uniform working conditions and wages in all mines and mills. In 1908 for example, half of the men were working in profitable mines while the other half were employed by marginal mines (Blainey, 1968).

The Sulphide Problem

As early as 1890 the mines along the line of lode had begun to strike the refractory sulphide ore that underlay the oxidised zone ("Sulphide ores", 1890). Blainey described the situation:

> In the early 1890s several hundred thousand pounds worth of silver was simply dumped each year near the main streets of the town. The silver lay in sandy heaps, exposed to the wind, and quite unguarded from looters and illegal fortune hunters. In the sandy heaps was also a fortune in lead and zinc. A stranger to the field who marvelled at so much wealth lying on the ground, without even a fence to protect it, was simply told that there was no known way of extracting the valuable metals from those sands. The dilemma was called 'the sulphide problem'. (Blainey, 1968, p. 51)

The South Mine, faced with the sulphide problem early in its history, nearly went bankrupt in the 1890s (Koenig, 1983). By 1893 the profitable high-grade ores were almost depleted along the line of lode, with even the Big Mine beginning to suffer from its inability to treat the difficult sulphide ores. A flotation process to treat the sulphides was eventually developed, allowing the life of the field to be extended by many years (Blainey, 1968).

The Amalgamated Miners' Association (AMA)

Industrial Action, 1889

From the commencement of mining at Broken Hill in 1885, the early years show scant evidence of disharmony between workers and mine management. In the mid-1880s the Barrier Union had moved its hub of operations from Silverton to Broken Hill, as befitting the emerging importance of the new field. By 1889 however, deep divisions had become apparent across the culture-class divide at Broken Hill, rendering the employment relationship in the town increasingly tenuous.

Further complicating the situation, divisions also became apparent within union ranks, with the diversifying workforce generated by the requirements of large-scale corporate mining inducing fractures along occupational lines. To maintain worker solidarity a federated union body, the Barrier Trades and Labour Council (TLC) was

formed in 1889. Under this body were affiliated the various unions representing engine drivers, carpenters, boilermakers, fitters, carters, and others, along with the numerically dominant Amalgamated Miners' Association (AMA) representing the underground miners (Ellem & Shields, 2002).

The Broken Hill mine managers had formed their own union, the Amalgamated Mining Manager's Association (MMA) in 1886. This was to represent the companies in negotiations with the unions (Kennedy, 1978). The relatively amicable master/servant relationship that had existed between the mine managers and the men was disrupted in July 1889, when a meeting of the AMA decided that members of the Association would no longer agree to work with non-members of the TLC ("Threatened Strike at Broken Hill",1889, Jul 25).

Kennedy (1978) noted that it was not a simple matter to account for this new spirit of militancy among the underground miners. He had, however, recorded earlier union disquiet at a rumour in April of 1887 that BHP was considering the introduction of mining by contract, although this did not eventuate at the time. He also offered the observation that in the first six months of 1889 more than three-quarters of union expenditure was paid out in accident and funeral benefits. Such a heavy drain on union finances was bound to raise the concern of the leadership, which appears to have come to a head in July of 1889.

The *Adelaide Evening Journal* of July 25th, 1889 reports the concern of Broken Hill union leadership at the increasing practice of some mine managers to require miners to work 'single-handed' at times ("Threatened Strike at Broken Hill", 1889, Jul 25). The AMA declared that it would refuse support to any mining manager who promoted this system, which it considered highly dangerous. Coming on top of the already hazardous living conditions in the town, this added threat to life and limb may well have been the final straw. It is entirely possible that it was in the interests of stamping out this practice of single-handed working before it became more widespread, that the necessary impetus was found for the rise of this new militant attitude among the workers.

Kelly (2002) has argued from industrial relations mobilisation theory, that it is from just such employer actions, generating a sense of injustice or illegitimacy amongst employees, that leads to collective organisation and activity. Individual miners, finding

themselves unable to prevail against company management, turned to the strengthening of union ranks to counter the unequal power balance enjoyed by the companies. Just as Karl Polanyi (2001) had observed, whenever the market economy threatened the immediate self-interest of the working-class, forces in society would combine to form a 'double-movement' against the intrinsic dangers of the market, with the combined strength of the unions in this case pitted against the mine managers' attempts to exploit the workforce.

The MMA was subsequently notified by AMA representatives that unless all non-unionists were discharged by Monday, August 5th, the union men would walk out on strike ("Threatened Strike at Broken Hill", 1889, Jul 25). With union members numbering between 1800 and 1900 out of a total number of about 5000, the managers, rather than taking sides, appear to have decided to let the men sort it out between themselves ("Union V. non-union labour", 1889, Jul 25). The AMA immediately began a recruiting campaign to encourage non-members to join the union. George Dale records the process of this 'encouragement' in his inimitable style:

> It was not until late in '88 and early in '89 that anything on sound lines was attempted in regard to organisation. But once having decided for a union worthy the name, the militants were not slow in getting to business. The usual skull-dragging of certain individuals into the Union took place, camps on the several fields being visited at all sorts of hours by enthusiasts, and men who were disinclined to join politely shown the "error of their ways". (Dale, 1976, p. 9)

A newspaper report on August 6th records that "[p]ersuasion of all kinds is to be tried with the obstinate non-unionists before any stronger measures are taken" ("Affairs at Broken Hill", 1889, Aug 6). Stronger measures evidently became necessary on occasion as Koenig (1983) records that before the trouble ended several non-unionists had been tarred and feathered. George Dale omits to mention this specifically, but presumably, it was covered in his thesis under the generic 'skull-dragging'. By October 22nd, 1889, although the threatened strike had so far been averted, it had become obvious that some of those who had been 'persuaded' to join the union still refused to pay their dues.

Further dissension amongst the workers was evidenced by an attempt to burn down the AMA office ("Broken Hill Miners' Union", 1889, Oct 22). After months of increasing bitterness, Dale (1976, p. 10) records that "there were still many men working who resolutely refused to join hands with their class". And so, on November

7th, the AMA called a strike. By Monday, November 11th, the Engine Drivers and Fireman's Union had joined the stoppage ("The Strike at Broken Hill", 1889, Nov 11).

The concern in the wider Broken Hill community was evident in the above newspaper article of November 11th which reported a meeting of citizens who wished to help mediate the dispute. It was pointed out that as the union focus of the dispute had now shifted from the mine managers' actions to a fight between members and non-members, no mediation would be possible. Even the directors and managers of the various companies were now attempting to remain neutral.

By Friday, November 15th, 1889, eight short days later, the strike was over. The ranks of non-union miners had been diminishing by the day. A deputation from the directors, having judged that the critical moment had arrived, had travelled to Broken Hill to meet with the AMA representatives ("The Broken Hill Strike", 1889, Nov 15). In a short series of meetings, the directors heard the AMA position and agreed to accept the supremacy of unionism in Broken Hill mines. How George Dale crowed:

> Thus the Barrier AMA had had its first strike, had badly beaten the boss in eight days, and had won conditions never previously obtaining in the country. Here was no preference to unionists, 'all other things being equal' – there was an unqualified demand for COMPULSORY UNIONISM, with the boss as chief recruiting sergeant, and what is more, sufficient industrial power within the organisation to enforce such a demand. (Dale, 1976, p. 11)

While the AMA leadership's reasoning behind the industrial action may have been laudable, some of the methods adopted to 'encourage' men to join the union were less so. Koenig (1983) recorded non-unionists being tarred and feathered, while Dale (1976, p. 9) cheerfully recounted "the usual skull-dragging of certain individuals into the union". Such tactics, while they may have induced a certain cowed compliance, did nothing to foster a 'class solidarity', having in many cases, the opposite effect. This would account for the subsequent attempt by unknown persons to set fire to the Association's offices, and for the refusal by others to pay the demanded union dues.

There is no further mention of the mining managers' threatened practice of requiring miners to work single-handed underground so it must be presumed that the unionisation of the workforce was eventually successful in this aim at least. What is not so clear is why the union leadership encountered such resistance when it attempted to recruit non-members into the union to achieve an end that would clearly be of benefit to workers. By all accounts, the strike was initiated by the AMA representing the

underground miners, which stood to be the most affected by the mine managers' direction to work single-handed in the dangerous underground environment. The following week, the Engine Drivers and Fireman's union had also gone out in support of the AMA, so it is most likely that the recalcitrant workers were from other occupational groups. CIT suggests that these may have felt little compunction in ignoring the call for solidarity, with its attendant obligation for the payment of membership dues.

Kelly (2002, p. 34), citing Klanderman's arguum, maintained that individual unionists deciding whether to engage in collective action will "calculate personal costs and benefits under three headings: goal, social, and reward motives". Goal motives anticipate that sufficient people will participate to ensure success. Social motives take into consideration the likely reaction of others (e.g., community members). Reward motives consider personal consequences such as gain or loss of pay. Studies have shown that a minority of union members require little encouragement to strike, while a second group, being initially uncertain, might join if the action looked likely to succeed. A third group remained always reluctant and would only grudgingly accede to social pressure (Kelly, 2002).

Such action is consistent with CIT in which, as discussed earlier, even the most minimal social differentiation is sufficient to generate a marked in-group, out-group response. What had in effect occurred with the division into separate occupational unions and despite the affiliation under the TLC, is the formation of *sub-cultures* within the working-class ranks. These sub-cultures quickly came to regard their own interests as separate from others formerly regarded as their fellows.

A further contributing factor may be found among those adherents to the Methodist faith who, coming from the copper mining districts of South Australia, comprised around one-third of the Broken Hill population in 1901 (Solomon, 1988). Solomon maintained that a prominent feature of Methodism from the time of Wesley onward was a loyalty to the governing powers; a residuum of Weber's (1961) 'protestant ethic', perhaps? Kennedy (1978, p. 15) also noted that "Methodists and other 'self-respecting' citizens almost certainly turned to temperance and church activities in reaction to the social disorder and anomie around them". Balancing this perspective, the South Australian Methodist copper miners, predominantly Cornishmen, were no

strangers to union organisation when it became necessary, suggesting that it may have been overt militancy that discouraged their participation. Discussing motivations for collective action Kelly noted that:

> The abstract ideologies that circulate within the labour movement – varieties of Marxism, Christian socialism, social partnership, etc. – are consequently of fundamental importance in understanding the concrete, day-to-day behaviours of workers. (Kelly, 2002, p. 29)

As a final observation, the potential presence of up to twenty different nationalities drawn from the Victorian goldfields as noted by Beggs-Sunter (2008) provided yet further foci for the emergence of sub-cultures consistent with CIT. The reaction of workers to this drive for union membership in 1889 illustrates clearly that far from being a homogenous working-class united in solidarity, they comprised instead a loose coalition riven by ideologies and cultural distinctions. The brittleness of the power they were able to bring to bear must have been obvious to the companies, who, despite George Dale's bravado, no doubt decided their ultimate course of action based on more immediate commercial considerations (Dale, 1976).

This 1889 dispute highlighted the interdependency of the mine workers, the ordinary citizens of Broken Hill township, and the management of the individual mining companies. The protagonist groups in the dispute strove for the high moral ground to engage the support, or at least to avoid the disapproval, of the community at large. During this first dispute, the companies endeavoured to be seen to maintain a neutral stance in what they came to portray as a quarrel between unionists and those who did not wish to be represented by the union. The community concern was evident in the number of prominent citizens who provided financial assistance to the strikers, and who offered their help in mediation (Kennedy, 1978). In a protracted confrontation, the difference between community support or condemnation might sway the balance of power to decide which of the protagonist groups would prosper; an observation not lost on either the union leaders or the mine managers.

The Maritime Strike, 1890

By 1890, according to Kennedy (1978), the Broken Hill mines were already beginning to feel the brunt of a looming depression. After 40 years of increasing prosperity, Australia was about to be plunged into an economic crisis of historic proportions which would last for most of the decade (Lloyd, 2013). More recent

research has suggested that the depression of the 1890s, compounded by drought, may have been deeper and longer lasting in Australia than the Great Depression of the 1930s (Merrett, 2013). In the first year of the decade, BHP shares had already experienced a heavy fall, and nationwide strikes by workers were signalling the possibility of widespread open class warfare (Kennedy, 1978; Spence, 2013). Having shared in a generation of Australian prosperity, working men and women were prepared to fight hard to retain their wages and conditions, while employers, faced with plummeting export markets, were equally determined to reduce costs to survive the downturn.

Broken Hill was only indirectly involved in the maritime strike of 1890 which signalled the onset of the depression. Company directors, however, expressed a concern that an interruption to supplies of coal, coke and timber might hamper the operation of the mines. Responding to this concern, AMA President Cann of the Broken Hill branch, in addressing a union meeting, reported that a union delegation on a recent visit to Port Adelaide found that no timber or coke had been blocked, but that a shipment of bullion had been stopped as the directors had attempted to have it loaded by non-union labour ("Closing down the Barrier Mines", 1890, Sep 8). Broken Hill miners in the meantime, concluding that no good purpose would be served by themselves striking in solidarity with the maritime workers, decided instead to support the strike financially. George Dale recorded:

> This action, of course, placed quite another aspect on the situation, for if the mines continued to work the levy would continue to reach the treasury of the strike fund, and would therefore render the working of the mines detrimental to brother capitalists, whose very existence was being challenged by this great upheaval. (Dale, 1976, pp. 15-16)

In what Kennedy (1978, p. 59) described as "a series of hasty and provocative measures", the directors then instructed their managers to close the mines at Broken Hill within a week. Two days later the men, in an angry and instantaneous gesture, walked out *en-masse*, their sense of injustice forestalling the orderly shutdown that the directors had planned. Bishop Dunne, in a show of community solidarity behind the miners, expressed that he was:

> … surprised and shocked. No excuse whatever could be found for closing the majority of the mines. Only one conclusion could be arrived at, and that was that the directors had been prevailed upon by the Employers' Unions to take a stand against labour and to crush trades unionism (Kennedy, 1978, pp. 59-60)

The action of the Broken Hill directors in instructing their managers to close the mines was interpreted by both the miners and by prominent citizens of the town as 'taking sides with their brother capitalists' in order to prevent Broken Hill strike funds from reaching the striking maritime workers. The move by the directors in seeking to have a shipment of bullion from Broken Hill loaded by non-union labour in Port Adelaide when there were other options available supports this conclusion. That the employers' unions had decided to take action against trade unionism at this time is indicative of the effectiveness of unionism in forming Polanyi's double-movement against free market forces in a society that was again seeking to reduce labour to a commodity.

Dale (1976) recorded that after about a fortnight the directors, having had time to reflect upon the consequences of their actions, initiated discussions to reopen the mines. The men, however, who had been locked out through no fault on their part, took opportunity to demand some concessions. Union delegates Cann, Sleath, and Ferguson travelled to Melbourne to negotiate personally with the directors (Kennedy, 1978). Foremost among their demands was the institution of a 44-hour week in place of the usual 48 hours. During negotiations, they agreed to compromise with a 46-hour week. In addition, it was settled in a four-point agreement between the companies and the union that any future disputes would be referred to a board of arbitration (Dale, 1976).

The willingness of the directors to meet with a union delegation just two weeks into the strike, as well as the concession of a reduction in hours and an agreement to seek arbitration on any future occasions of dispute, could be understood to indicate at least some degree of culpability felt by the directors. In the depressed conditions of the 1890s, such actions by directors served only to underline the developing gulf between class interests in Broken Hill. During the lockout, the union had taken on the role of organising picket duty and strike pay. This experience would have done much to engender class consciousness and an awareness of the interests of the workers being separate from that of the employers.

Downfall, 1892

The Eighteen Week's Strike

By 1892, with the country now deep in the worst economic recession in its history, the mine managers were becoming desperate to find a way to cut costs. In the

first half of the 19th century, silver, which had rivalled gold in underpinning national monetary systems, had been the main source of wealth from the mines at Silverton and Broken Hill. In the second half of the century, the price of silver fell as countries progressively abandoned the metal in favour of the gold standard. From an 1883 price of 4*s* *6d* an ounce, it would fall to 2*s* *6d* an ounce by 1894, which represented an astronomical loss of profits to the Broken Hill mines (Blainey, 1968). At the same time, the intractable sulphide ore which had resisted all attempts at separation and smelting was looming as a major challenge to the profitability of the mines.

It is doubtful whether the average Broken Hill miner would have been able to appreciate the gravity of either the international recession or the sulphide ore problem facing the companies. However, it is certain to have occupied the full attention of the mine managers and directors. The miners' wages had not been reduced at this point, although the managers believed that more men were employed than the work required. Blainey (1968) has argued that in trying to avoid a confrontation with the unions they instead began to entertain the idea of introducing a contract system, first mooted by BHP back in 1887, to increase the efficiency of the work.

The underlying issues of the conflict of 1892 at Broken Hill exemplify the difficulties inherent in wage employment agreements. The founding father of modern industrial management, F. W. Taylor believed that the "conscious restriction of output" or 'soldiering' as he termed it, "has always been the original sin of the working class" (as cited in Davis, 1983, p. 83). Broken Hill company directors had long harboured the feeling that the wage agreements they signed with the men every two years while guaranteeing the hours to be worked and remuneration to be paid, specified no obligation for work that was due in return. By introducing a system of contract mining where the amount to be paid would be based on the quantity of ore produced by each miner, they felt that a fairer accounting of the time spent underground could be obtained. After further deliberation, the managers decided to proceed to a contract system, not anticipating any real trouble with the miners as contracts offered an opportunity for the most experienced to earn more, in the same fashion that the Cornish tribute system had been so successful in the copper mines of South Australia (Blainey, 1968; 2003).

George Dale, however, had an entirely different notion. The mine managers, in his view had unilaterally repudiated their agreement of 1890 which required any dispute to be referred to arbitration. His sense of injustice fairly leaps off the page:

> The sacred document violated [he cried!] … with the ink scarcely dry on the paper of the agreement … [e]very pin-pricking device known to capitalism was employed against the miner at work, spies were sent to the Union meetings, any loose words uttered were magnified by "the Silver Age" (the companies paid press at the time) in order that the men's cause might be weakened in the public eye when the actual breach was precipitated. (Dale, 1976, p 19)

In fact, the men's cause had already been weakened in the public eye when, in an AMA meeting at which a newspaper reporter happened to be present, unionist Jack Long, in defence of a miner named Rowe who had been dismissed from the Block 14 mine, ostensibly for sleeping underground, had denounced this as being unfair "for there was not a man in 'the Hill' who had not had many a good sleep underground" (Dale, 1976, p. 20). When this was subsequently reported in the newspapers the die was cast. The managers, considering themselves now vindicated in the eyes of the community and no doubt further emboldened by the recent defeat of the maritime and Queensland shearer's strikes, sent the following to the union:

> The companies have therefore decided unanimously to give your association notice that all agreements existing as between the said companies and the AMA will terminate on and after Saturday, July 30th, next. (Dale, 1976, p. 22)

Payment was to be by contract, and by results for specific work.

The men struck on Monday, July 4th, 1892, standing steadfastly against any proposed 'freedom of contract' which entailed work conditions not covered by wage agreements. They believed that it would result in a system of 'sweating', where semi-skilled labour would be used to force contract prices down, as well as leading to unsafe shortcuts in underground work ("Trades and Labour Council Appeal", 1892, Jul 19). Their leaders were quite confident of success, believing that there were few skilled miners available outside the district and that the directors would not dare to re-open the mines with unskilled labour ("The Great Strike at Broken Hill", 1892, Jul 21).

The confidence with which the union leaders rejected the contract proposal and instigated a strike belied the true situation of unemployment outside Broken Hill during the depression. With the successes of the industrial actions of 1889-90 still fresh in their minds, the union leadership were swayed by the belief that they now held the balance of

power in the employment relationship. Feeling in the town, however, was that the union position had been compromised at the outset by reports of 'slacking off' underground. Despite this, union leaders felt that the directors had little option but to eventually meet their terms. In fact, the BHP directors were already negotiating a contract with the Melbourne firm of Baxter and Sadler to provide a contracted non-union workforce to re-open the mines ("The Labour War at the Barrier", 1892, Sep 12).

A Miscalculation

The mine sites were immediately cordoned by union men on picket duty. Picketing unionists clashed with non-unionists trying to obtain work. Newspaper reports describe violent scenes in which men and officials on the mines were being starved out by the pickets, who permitted no food to pass through their lines:

> They upset the baker's carts when they see them, and destroy the bread. Even persons who wish to go to their private residences, which are within the lines of the pickets, are not allowed to enter without a pass from the unionist committee. ("A State of Siege", 1892, Jul 9)

BHP mine manager Howell cabled his directors to arrange for extra police, to which George Dale (1976, p. 24) responded "[t]his is typical of the capitalist the world over. If he fails to exploit the mob by stealth, he at once flies to the authorities to overawe them with a threat of force".

In the great cities of the land, suffering as they were under the weight of the depression, there were too many unemployed men that were glad to find work at much lower wages than the miners of Broken Hill had been paid. The unemployment created by the depression had contributed to just such a 'reserve army' of unemployed workers as was necessary for a *laissez-faire* deregulated labour market to flourish. The mine managers, no doubt still smarting from the recent union triumphs, were only too happy to take advantage of it.

All through August of that year men, both unionists and non-unionists had been slipping into the mines to apply for work. By August 26th, the numbers engaged were: "Proprietary, 130; Block 14, 20; Block 10, 8; South, 20" ("Broken Hill Strike", 1892, Sep 2). Three days later there were 160 engaged at the Proprietary. The leaders of the strike were arrested and imprisoned (Blainey, 1968), and Mr John Darling, director of BHP "gave a promise to devote his life to the beating out of existence of unionism" (Dale, 1976, p. 33). The capitalists had again declared war on the unions.

Mining the Future: Post-Market Society and the Capital-Labour Conflict

In early October 1892, after fourteen weeks on strike, a further fracture revealed the increasing desperation in the ranks of striking miners. A series of newspaper articles appeared promoting the formation of a new union; one that was prepared to accept the mine manager's terms for a return to work. In a heartfelt plea, the organising committee of the new union appealed to 'Fellow Workers':

> Every day proves that we cannot possibly hope for victory even in an insignificant degree. Men are being brought here from outside sources to fill our places. There are fully 1,100 men employed along the line of lode. One hundred and fifteen men are now en route to Broken Hill from Victoria, and we are positively assured that an additional 250 or 300 navvies will be dispatched from Melbourne in the following week. In brief we are standing idly by while strangers occupy our posts, and we are pursuing a policy of foolhardiness that is already inflicting untold misery and privation upon our families. ("The New Union. A Manifesto", 1892, Oct 10)

Denounced by the AMA leadership as 'blacklegs' and 'scabs', the proposed new union collapsed a week later. John Howell of the Proprietary Mine announced that almost 1,100 men were already at work and that additional men would be arriving soon ("New Union Abandoned", 1892, Oct 17).

By November 1892, the strike was declared off with the unions in complete disarray. The AMA had miscalculated the strength of its position and had paid the penalty. In a depressed market, it was the companies that held the whip hand, and now they pressed home their advantage: Wages were reduced by 10%, and mining was carried out by contract wherever possible (Blainey, 1968). By Christmas of that year, there were still 3000 former mineworkers unable to find work in Broken Hill, many of them staunch unionists of the successful campaigns of 1889 and 1890 (Dale, 1976). Blacklisted by the companies, they had little recourse but to leave the town to find employment elsewhere.

Months after the conclusion of the strike BHP manager John Howell was able to boast "we have extracted 22,000 tons more of ore, with just under 40 percent less men" (Kennedy, 1978, p.71). Blainey (1968, p. 62) opined that "no reform did more to keep the weaker mines alive during the dismal years of the 1890s", but it was to be many years before the unions regained their lost concessions. Membership fell to less than half, and the contract system became a permanent feature of mining at Broken Hill (Kennedy, 1978; Koenig, 1983).

Some idea of the 'sweating' conditions for the average worker which prevailed during this period may be gauged from the following statistics recorded by Blainey (1968, p. 96). "In the year ending June 1897 the Proprietary employed an average of 2500 men at Broken Hill, but in the same year 3100 men left the company's employment". Kennedy (1978) also records that the number of accidents increased noticeably after the strike, prompting a Royal Commission inquiry into mine safety. Mine accidents and mining-related illnesses were to be recurring themes that would plague the miners of Broken Hill over the life of the field.

Why did they fail?

The success of any industrial action by workers against their employer would appear to require the fulfilment of two pre-conditions: Firstly, that the action is undertaken on a buoyant or rising commodity market when the employer's losses through stoppage are likely to be maximised (Boddy & Crotty, 1975), and secondly, that the workers be firmly united in their resolve. In the case of the 1892 strike at Broken Hill, neither pre-condition was met. The depression was worldwide, resulting in high unemployment and a depressed metals market. Many Broken Hill union members quickly formed the opinion that their leadership was in error on this occasion. This was most strongly evidenced by the abortive attempt of a significant number of them to form a breakaway union to meet the company's terms and by the number of union members that deserted the AMA cause to 'blackleg' in the mines. Again, as in 1889, the 'in-group, out-group' ideology foreshadowed by CIT had fractured the desired working-class solidarity.

The industrial relations upheaval in Broken Hill at this time reflected similar events that were occurring Australia-wide during the 1890s depression. Wages and conditions won by trade unionists during the years of prosperity were being attacked and broken down by vengeful employers. The possibility of armed violence and even civil war loomed as an ever-present threat (Spence, 2013).

Governments, both state, and after 1901, federal, were sufficiently alarmed by such a militant turn of events that each independently moved to establish arbitration tribunals to which unresolved industrial disputes could be compelled to refer for resolution. The government's motivation was an earnest desire to ensure the protection of the greater Australian community from the economic loss and inconvenience

attendant upon industrial conflict. Prominent consideration was also given to the "demand from labor for effective measures to eliminate sweating and primary poverty among weak and unorganised groups of workers" (Oxnam, 1956, p. 610). Just when it appeared that Polanyi's double-movement protection afforded by trade unions had become ineffective, other forces in society had stepped forward to heal the breach.

A Radical Turn

The Socialist Years

The beginning of the new century in Broken Hill was characterised by the emergence of an extreme politics amongst the union leadership. The year 1901 had opened to a further slump in the metals market, with both the miners and the companies feeling the pinch. The companies, led by BHP, were determined to force a reduction in wages, which the miners were as equally determined to resist. With the resounding defeat of 1892 still fresh in their minds, the union leadership was prepared to embrace a more aggressive, socialist-inspired approach.

In 1903, Mr Justice Cohen of the State Arbitration Court declined to award a wage increase and a reduction in hours for miners, with the rationale that companies could not afford it at the prevailing metal price (Dale, 1976). His Honour also declined BHP's counterclaim for a 10% reduction in wages (Osborne, 1973). In 1906, with a new award being negotiated the unions again asked for reduced hours and a wage rise. The MMA responded with an offer of a 12.5% increase, subject to lead prices remaining above £16 a ton. This was the first wage increase in 13 years (Koenig, 1983).

A further lead price slump in November 1907 saw BHP Chairman of Directors, John Darling announce that if the industry was to continue, wages must be reduced (Dale, 1976; Koenig, 1983; Osborne, 1973). General Manager, G. D. Delprat, addressing trade union officials on June 10th, 1908, further reinforced the company's determination when he announced:

> Just now we are all in a very precarious position. The Companies are not making any money – at least mine is not – and we have to do everything we can to keep the ship afloat. I want to carry the Mine on if I can, and to do so I will be as mean as I can. (Kennedy, 1978, p. 102)

Delprat, although a brilliant metallurgist and a most successful mining engineer, may well have had his attitude to labour coloured by twenty years presiding over a peasant workforce in Spanish copper and silver mines prior to taking up the position at BHP

(Osborne, 1981). With the current wage agreement due to expire in December of that year, the unions faced the immediate future with sufficient trepidation that they sought ways to resolve their internal differences.

In preparation for the wage negotiations, a Combined Trade Union Committee (CUC) was formed as a temporary replacement for the Trades and Labour Council which had collapsed after the 1892 defeat. Having tried the conventional path of trade unionism and been badly beaten by the companies, the leadership now invited Tom Mann to Broken Hill to help organise the unions and boost the membership. Mann, a Socialist, Communist, and trade union organiser, had achieved international prominence as a leader of the 1889 London dock strike (Osborne, 1986). It was evident by the selection of Mann to lead the re-organisation that something more than an accommodation with the 'bosses' was being considered, the aim of both socialism and communism being nothing less than the complete overthrow of capitalism. An accomplished orator, Mann succeeded in boosting the union ranks by 1600 in the first few weeks (Dale, 1976), an indication of the appeal to the rank and file of this newfound militancy.

In the lead-up to the wage negotiation, a further complication arose when, yet another split became evident in the union ranks. A rival to the dominant AMA, the Non-Political Industrial Union (NPU) was formed from the surface workers section of the AMA, "on account of the management of its affairs not because of any difference in union principles" ("Barrier Mines", 1908, Oct 19). The members of the NPU numbering some 1100, offered to conjoin with the AMA in meetings with the mine managers. The AMA refused to consider this, threatening to strike unless the mine managers broke off negotiations with the NPU and withdrew recognition from the new union.

The significance of this division in the union appears to have been that certain members were not wholly satisfied by the direction taken by the AMA leadership. This is indicative again of the minimal difference in perspective necessary to generate in-group, out-group antagonism as described by CIT. Whether the NPU preferred a less militant approach than was being offered by the socialist element led by Mann is not recorded, however, in view of their complaint about 'the management of affairs', it does seem likely. The threat proved to be short-lived, however, as a telegram from the CUC to the Sydney Labor Council on Friday, October 23rd stated "Bogus union smashed

completely. Full recognition from mine managers Association conceded to combined unions. Grateful for continued interest in our case" ("Broken Hill Trouble", 1908, Oct 23).

During the wage negotiations, the MMA, which hitherto had presented a united front to the unions, showed the first evidence of internal disharmony when facing the combined strength of the CUC. BHP manager and MMA president Delprat argued forcibly for a reduction in wages while other managers expressed a desire to continue at the present rates. This was indicative of the perilous situation at the Big Mine, which at the time had almost exhausted its available ore. At this juncture, the leadership on the field passed out of the hands of BHP, which would never again achieve the dominance that had marked its early years. Delprat resigned as president of the MMA and led the BHP aligned companies in a lockout that would endure for two years. The one illuminating feature on the horizon for the companies was that in 1900 a flotation method for separating the sulphide ores had been discovered and was being progressively advanced towards a profitable scale of operations. Ultimately, this process would extend the life of the field by many decades, but in 1908 it was little more than a promise.

The miners, in view of the refusal by the BHP aligned group of companies to negotiate a wage agreement, considered themselves to be 'locked out', and so took immediate action to picket the mine leases. Picket duty each day started at 8 am, with rosters being changed every four hours during the day. At each change of shift, the men would be marched to duty led by officials under a union banner, accompanied by a band, with Tom Mann at the head of the procession (Dale, 1976). It was a Red Flag that now flew over the Barrier, and it would be this rather than the Union Jack that would lead the miners on their way to relieve the pickets (Kennedy, 1978).

Police Action: The Legacy of Bitterness

Tom Mann's memoirs recorded his experience of Saturday, January 9th, 1909, as the pickets at the BHP were about to be relieved:

> After the mass meetings, which were held on open ground adjacent to the Trades Hall, the entire audience would fall into marching order, and led by a band and the union officials, would pass through a portion of the town and along a thoroughfare near the 'dumps' or 'pit-heaps', being careful not to trespass on the company's property. No unseemly behaviour was indulged in. The Chief of Police reported

> that the only noticeable change was a marked diminution in the number of 'drunk' cases compared with normal times. (Mann, 1923, p. 236)

It being a Saturday, a larger number of marchers and onlookers than usual were present (Dale, 1976). As the procession approached the area short of the company's property where it had been their practice to halt in formation, Mann records that they found their way blocked by a body of police. Without further provocation or warning, the police charged at the procession, tore down the union banner, and began to baton the heads of the band and the assembled miners, arresting twenty of their number, including Tom Mann (Dale, 1976; Mann, 1923).

Earlier that same morning a further 100 police had arrived in the town, swelling the number of Sydney police despatched to Broken Hill to 200 in total (Dale, 1976). With the arrival of these extra reinforcements, the police had felt sufficiently emboldened to attack the miners for illegal assembly. George Dale believed that BHP was deliberately trying to provoke the miners to rash action so that the blame for the lockout should fall on the unions rather than the company (Dale, 1976).

In the NSW Legislative Assembly on June 29th, 1909, the Honourable Member for Redfern, Mr McGowen laid the responsibility for the troubles at Broken Hill on the (Wade Liberal) government for "tactless administration of the law", in despatching police to Broken Hill when there was no necessity (McGowan, 1909, p. 50). Although no government member would admit to authorising the despatch of the police, it was the opinion expressed by several Honourable Members that it had been carried out by the government at the personal request of the Proprietary Company, in the full understanding that it would provoke, rather than prevent unrest.

The actions of the Wade Liberal Government in detaching the police cohort to Broken Hill are indicative of the apprehension engendered at the time in ruling-class circles. The prospect of the working-class taking the law into their own hands and embracing a radical doctrine whose stated aim was the overthrow of capitalism was not to be countenanced. Excerpts from a post in the Hobart Mercury being typical of the outrage expressed in the capitalist press of the time:

> Now it is quite clear, from the evidence already produced, that at Broken Hill these anarchical doctrines have acquired a strong hold, and it is certain that a number of persons have come to believe that they are oppressed because they cannot get what they want; in fact, their leader, who seems to be among the foolish ones, proposes to make war on what he calls 'capitalism', the meaning of which term he, probably,

> does not understand, and has never attempted to define … [m]oreover, all new industrial societies must be under strict direction and discipline;- so that trade-unions will have short shrift and prompt execution, and strikers will be put down as enemies of society in its new and perfect form … [f]or they may be sure of one thing, that if they should ever really threaten society or industry, as they seem to desire, society will make short work of them, and they will suffer … ("Labour and Anarchy", 1909, Feb 17)

The Honourable Member for King, Mr Broughton, in the NSW Legislative Assembly presented a different view, stating that "[t]he Proprietary Company have extracted millions of money from their property, and the men who have assisted them to derive such large profits have not been adequately rewarded" (Broughton, 1909, p. 377).

To the miners, the conclusion that the forces of government, police, and capitalism were aligned against them was plain. However, from the perspective of a government charged with the maintenance of law and order, the miners had effectively usurped the law by acts of violence against mine officials crossing the picket lines, and by the destruction of mine property by the setting of bombs ("What Union Tyranny Means", 1909, Jan 6). Such diametrically opposed perspectives are typical of the in-group, out-group antagonism described by CIT. It was from the 1909 troubles that the town cemented its reputation as the 'Mecca of Unionism', attracting to itself an increasing number of committed socialists and 'born rebels'. These would exert an ever-growing influence on the unions up to, and including, the years of World War I (Kennedy, 1978).

It is difficult at this remove, to assess the extent of commitment to Socialism by the ordinary working miner on the Barrier. Kennedy (1978) attributed the influence to a small band of proselytizing zealots, whose numbers the *Barrier Miner* assessed at between 25 and 30. However, when either Tom Mann or fellow socialist Ben Tillett held rallies, it was to crowds of 2000 or more. Superintendent Johnston, according to Kennedy (1978, p. 106), asserted that "Broken Hill has more Socialists than any place I know out of Sydney … and there are men in the Socialist group here who would stop at nothing". Kennedy also notes that the 'hard-core' unionists were the underground miners, the most numerous of the union groups.

Harry Holland, General Secretary of the Socialist Federation of Australasia, was invited by the Socialist group to Broken Hill to support Tom Mann. However, moderates in the CUC took exception to his fiery rhetoric and forbade him to speak at the Trades Hall, an indication that extreme Socialist doctrine was not universally

accepted (Dale, 1976). Holland was subsequently arrested and charged with seditious utterances by panicked authorities when he advocated violent reprisal against the police brutality (Kennedy, 1978).

During the two years duration of the 1909 wages agreement BHP, British, and Junction mines remained closed to underground mining. The fact that other mines continued to work meant that strike pay was available to unemployed miners, thus reducing the hardship that otherwise would have occurred. When a new agreement was reached in 1911 allowing for a 10% pay rise, the BHP aligned mines did not take part in the negotiations. They did, however, resume underground work, agreeing to pay the increase (Koenig, 1983).

In 1912 the price of lead recovered and remained high, swelling the workforce by more than three thousand over the next two years (Blainey, 1968). The MMA, now under the leadership of James Hebbard, manager of the Central Mine, set about attempting to change the culture of industrial relations through a policy of concessions. In this, he was ably supported by H. W. Gepp, manager of De Bavay's Treatment Plant, who took an early interest in the welfare of his employees (Kennedy, 1978). However, the bitter legacy of BHP and Delprat, reinforced by the new militant element in the town would take considerable time to overcome. During the troubles of 1909, the town had become thoroughly polarised into the two opposing camps of management and unions.

A new union federation, the Barrier Labor Federation (BLF) had emerged at the instigation of the AMA to replace the ad hoc CUC. Giving ear now to the socialist doctrine of the overthrow of capitalism, BLF leaders were deaf to the overtures of the Collins House managers who had assumed the leadership on the field, and who now attempted to address welfare issues in the town. Union suspicion of the motives of the 'capitalist' mine owners was by now a part of their nature, and although the radical element may have been few in total number, they held considerable sway over the majority. By August 1914, 95% of the 8700-strong mining workforce were union members (Ellem & Shields, 2002).

Wartime, 1914

The I.W.W.

With the outbreak of war, the metals market immediately collapsed throwing 4000 men out of work at Broken Hill. Some government assistance was made available to the unemployed, and many were provided work on railway construction on the North Coast (Dale, 1976). The mines shortly resumed on half time, and by 1915 were back close to full production. However, a new wave of militancy promoted by the International Workers of the World (IWW) began to assert itself among the miners. With a strident anti-capitalist philosophy that "the best way to get that system altered is to inconvenience the mine as far as possible" (Kennedy, 1978, p. 123), the IWW appealed to miners impatient with the slow processes of arbitration, parliament, and Royal Commissions.

This propensity for resorting to sabotage to achieve their industrial aims led to the IWW being declared a prohibited organisation by the Australian Federal Government ("IWW to be Banned", 1916, Dec 18). Numerous arrests of members followed in Broken Hill, but this did little to stop a wave of sabotage in the town. In January 1918, the *Barrier Miner* newspaper office was bombed ("Bomb Explosion", 1918, Jan 22). The following year a fire at the South Mine, estimated to have caused £50,000 damage was attributed to the IWW ("Fire at Broken Hill", 1919, Aug 5).

In the prevailing militant atmosphere, the town became bitterly divided over the issue of wartime conscription. The division caused ex-alderman, and prominent Methodist Brian Doe to break with the Labor Party. Kennedy (1978, p. 143) observed "Doe's departure from the Labor Party symbolized the end of a long and fruitful association between local Methodism and the unions". This removed a powerful moderating influence on the labour movement at a time when extreme militancy was coming to the fore.

The war effort and conscription were supported by the mine managers, clergy, schoolteachers, business people, and the capitalist press, while the militant leadership of the AMA regarded it as a capitalist war in which the workers, who wanted no part of it, would be sacrificed to the interests of the capitalists. Editor R.S. Ross, of the *Barrier Daily Truth,* exploited the widespread discontent with his analysis of the war: "Whoever is victorious in this war it will not be the working-class. The war is a capitalist war, a

product of the system of which the workers are the scorned victims" (Kennedy, 1978, p. 132).

How deep this scorn may have run is evidenced by the fact that both the Collins House and the BHP directors, putting profit before principle, knowingly allowed their companies to continue to trade internationally with German-backed companies during the early part of the war. Such unabashed collusion with the enemy continued, until on November 8th, 1914, the office of Collins House director W. S. Robinson was raided by Commonwealth Military Forces at the behest of Federal Attorney-General W. M. Hughes, under the terms of the *Trading With The Enemy Act*. Also raided on that same day were the offices of BHP, North Broken Hill, Broken Hill South, and two other Australian metal trading companies (Carrigan, 1983).

Pressure applied by Hughes forced BHP and Collins House to withdraw from the German-backed cartel, precipitating the move by Collins House to acquire a controlling interest in the Port Pirie smelters under the auspices of the Broken Hill Associated Smelters (BHAS). Hughes subsequently sought a written undertaking from the BHAS that they would not engage in any trade with Germany or its representatives (Carrigan, 1983). One can only speculate how the Broken Hill working-class might have reacted to this revelation had it become generally known at the time.

Further Troubles

By September of 1915, the underground miners had become impatient with the lack of progress in negotiations for a new agreement with the companies. Refused a wage increase and a 44-hour week, they decided that they would not work the Saturday afternoon shift in protest. The companies responded by dismissing all underground workers in January of 1916. The AMA supported the underground men by calling a general strike, although the FEDFA and the Port Pirie smelter workers chose to keep working, creating yet another bitter rift in union solidarity (Dale, 1976). The AMA action was resolved after eight weeks when Mr Justice Higgins of the arbitration court awarded the underground workers a 44-hour week. However, as it was only awarded to underground workers it served to increase tensions over job demarcation, highlighting further ideological divisions over arbitration (Ellem & Shields, 2002).

In February 1916 a new peak union body, the Broken Hill Trades and Labour Council (TLC) was established by the surface unions. This was a direct challenge to the

BLF and the AMA, contributing further to inter-union rivalry. In August, the following year the AMA called a general strike. Having determined that the only way to abolish capitalism was for the workers to unite in a class-conscious action, the union prevailed upon the TLC to call out sixteen affiliated unions, effectively closing down all operations on the Barrier (Dale, 1976; Ellem & Shields, 2002). As the Sydney police were occupied with strikers in the city, the 'authorities' borrowed a trainload of police from South Australia, who proceeded to baton and arrest members of the striking crowd almost immediately upon arrival. In retaliation municipal workers charged with removing garbage and night soil from the police billets "forgot to call", until, after "a few days of stench and filth", the South Australian police were forced to be sent home (Dale, 1976, p. 236).

The Union goes to Town

Taking a historical perspective of the troubles at Broken Hill, Kennedy wrote:

In the course of this remarkable contest, waged over two decades, unionism acquired a tenacious grip on the town and its spirit. Indeed, during the great industrial upheavals of 1892 and 1909 the unions were, to all intents and purposes, Broken Hill. (Kennedy, 1978, pp. 146-147)

Union influence among town employees was further enhanced when in 1915 some employers in the hotel and restaurant trade attempted to reduce wages. The AMA immediately supported a ban on those offering wage cuts, with a list of those businesses published in the union newspaper, *The Barrier Truth*. A boycott was instituted on those attempting to cut wages, while compliant proprietors were given a white card to display in their windows, allowing them to continue trading normally (Dale, 1976).

Further union pressure was applied when the Licensed Victualler's Race Club held a race meeting on Easter Saturday. As some of the committee members of that club belonged to the wage-cutting proprietors, the union imposed a boycott on the meeting, which resulted in a heavy loss to the Club (Dale, 1976). Such was the good will generated among shop employees by this AMA support that George Dale was later able to say "… on every occasion that there has been a stop-work day on the Barrier the H.C. and R.E.U. [Hotel, Clubs & Restaurant Employees Union] girls have been the first to respond to the call" (1976, p. 172). By the end of 1915, with a Labor Council presiding over the city administration, the union influence encompassed every aspect of life in Broken Hill.

Collins House

By 1917, the Collins House directors of the prominent mines on the field had become alarmed at the increasing militancy among the workers. Prompted by H.W. Gepp, manager of De Bavay's Treatment Works, they belatedly investigated conditions on the Barrier and were forced to admit that the companies and the government had for too long neglected the town and its people. The investigation found, for example, that the workers had contributed more to the hospital than the companies ever had (Kennedy, 1978).

With the departure of BHP from management of the Port Pirie smelters, the Collins House directors had already witnessed positive results from progressive industrial relations policies they had caused to be introduced at Port Pirie. Hoping the same might be achieved at Broken Hill, they appointed Gerald Mussen, who had been so successful at Pirie, to undertake the program. Unfortunately, Mussen arrived in Broken Hill immediately after the unions had served a revolutionary log of claims on the companies. The militants were so far alienated by this time that they viewed Mussen's policies as:

> … delusions, palliatives, sops, and doles; for them nothing less than the complete overthrow of Capitalism could emancipate the class conscious worker. Their conviction that the companies were seeking to chloroform the worker and deflect him from industrial action steeled them, in their intransigence. (Kennedy, 1978, p. 161)

Revolution!

The news of the 1917 Bolshevik triumph in Russia served only to further stoke the fires of apocalypse in Broken Hill. With a Bolshevik Consul active in the town in 1916-17, the union leadership was firmly convinced that the overthrow of capitalism was imminent (Blainey, 1968). That many conservatives in the Western world at the time thought they had cause to fear homegrown Bolshevism may account for the political Right achieving supremacy at federal level in Australia at the expense of the Australian Labor Party. The ALP had dominated between 1910 and 1916, but in 1917 the conservatives gained power, maintaining electoral control throughout the inter-war years (Kirk, 2006).

Conservative governments in this period were not beyond using political terror tactics to maintain their hold on power, including authoritarian civil laws, incarceration, sackings, and prohibition of strike action, enforced by physical violence meted out by

police and special constables (Fischer, 2005; O'Shea, 2017). In their desperation to preserve the status quo, the conservatives showed an alarming willingness to embrace dictatorship over democracy. In 1918, a powerful and influential faction of the political far-right in Australia formed the Australian Protective League (AuPL). An arguably fascist organisation, the purpose of the AuPL was to coordinate prominent citizens into paramilitary squads to assist with the maintenance of law and order and to ruthlessly suppress any emergence of Bolshevism in the labouring classes (O'Shea, 2017).

Perhaps the best known and most serious of these shadowy far-right organisations was the New Guard, formed in New South Wales in the 1920s. Representatives of the New Guard openly praised the emergence of fascism in Italy and Germany after WWI. In 1925, during the seafarer's strike, the *Sydney Morning Herald* ran the following: "Italy was only saved from Red Dominance by the heroic remedy of Fascism – a dreadful medicine for sure, and yet less bitter than the plague it stopped" (Orsag, 2013, p. 2).

The emergence in Australian society of such radical far-right sentiments in the ruling-class in response to what was interpreted as a working-class on the brink of revolution is further evidence of Polanyi's double-movement. It is also a confirmation that it is, in fact, a two-edged sword, able to be wielded by all groups in society, and that society can marshal its counterforces even if the threat to its structure should come from a militant working-class union that has acquired a dangerous degree of power.

'What's wrong with Broken Hill'?

In 1917, Colin Fraser asked in a letter to his fellow directors at Broken Hill South: 'What's wrong with Broken Hill?'. Underground manager Andrew Fairweather had a few ideas. In his report to the directors:

> He thought it was pointless to blame unions for pursuing narrow policies of self-interest; the companies were at least as selfish, and yet they could afford to be generous … He argued that a city of mean cottages, dreary lodging houses, shrivelled recreation grounds and racecourses, crowded schools, inadequate hospitals and meagre youth organisations disgraced such a rich line of lode. (Blainey, 1968, p.137)

Blainey's later analysis looked beyond the physical conditions of the town and the meanness of the mine owners. He argued that it was the fluctuating, irregular cycles of the metals market and the dramatic decline of BHP as its mineral lodes became exhausted that set the scene for the long strike of 1919. The Big Mine could no longer

work at a profit when mineral prices were low, and the push by the manager Delprat to drive wages down became "a rebellion against unionism and its demand that wages should be uniform and adequate" (Blainey, 1968, p. 117).

Kerr-Siegel Hypothesis

There is a further aspect, not yet considered in the above, that may have contributed the final straw. Compounding the conditions outlined by Fairweather and Blainey was the isolated nature of the Broken Hill community. Kerr and Siegel, in a study of the inter-industry propensity for strike action, found that the mining industry, followed by the maritime and docking industries, had the highest propensity for workers to strike. They outlined a two-part hypothesis to explain their results. The first part was that conditions of industry specialisation, absentee ownership, and employment concentration contributed to a community structure that tended to produce an 'isolated mass' of workers (Lincoln, 1978). In the case of Broken Hill, these conditions were greatly compounded by its added physical isolation. The second part of Kerr and Siegel's hypothesis was that if the work should be physically difficult or unpleasant it would attract tough independent workers who would be more inclined to strike (Brinker, 1985).

Although some later researchers have criticised the Kerr-Siegel hypothesis, pointing out that there have been many instances of isolated mining communities which did not have a high propensity to strike, it should be appreciated that the 'isolated mass' requirement was only one of several factors contributing to the strike propensity. If other factors were absent, it may not provide the 'tipping point' observed by Kerr and Siegel. The physical isolation of Broken Hill, combined with the stark living conditions of the town, a high injury, illness, and death rate, a distant and disinterested government, absentee directors, and a niggardly company management combined to forge an insular community in which sometimes petty grievances could be magnified out of all proportion.

A widely held misconception common among the workers, for example, was that the Broken Hill companies were paying out a disproportionate fortune to absentee shareholders who had done nothing to earn it. In fact, Blainey (1968) recounts that in the first 35 years of production the Broken Hill mining companies produced metal worth £106 million, of which only one-fifth was paid in dividends. The remainder went

into pay packets, machinery, timber, coke and coal, railways and shipping. Even the mine managers were not immune to such insular thinking. As Kennedy (1978, p. 148) remarked "[y]ears of isolation in the remote mining town had turned some managers into cynics or pessimists on the subject of industrial relations"; a comment that underlines the validity of the Kerr-Siegel hypothesis in its application to the Broken Hill community.

The Big Strike, 1919-20

A further example of the complexity of the factors at play was evident leading up to the strike of 1919-1920. Not all of the mine managers were as progressive in their approach as those of the Collins House group. Cyril Emery, manager of the British Mine was, according to Kennedy "probably the most cantankerous of the managers". Emery had argued the merits of a 'good long strike', stating that "once Broken Hill men owned the earth they would clamour for the moon" (Kennedy, 1978, p. 148). It was Emery, as MMA president at the time, who was to chair the meetings to discuss the union log of claims. His frequent impatient outbursts only hardened the miner's resolve. Negotiations quickly reached an impasse, and the union leaders readied for a protracted and bitter strike.

As the strike progressed it became apparent that foremost among the miners' claims for a 35-hour week were issues relating to the health of underground workers. Mine managers had long maintained that conditions underground at Broken Hill were not conducive to the development of the lung disease, miners' phthisis (pneumoconiosis) and that miners suffering from the disease had contracted it in other mines in the state before coming to Broken Hill. With negotiations between unions and companies at a stalemate, the Collins House directors now took the lead, inviting the union delegates to a conference in Melbourne.

It was here that they learned to their apparently genuine surprise of the fundamental importance of health matters in the miner's claims, prompting them to initiate an immediate investigation (Kennedy, 1978). Henry George Chapman, professor of pharmacology was appointed to lead the exhaustive inquiry which required the X-Ray examination of almost 4,000 miners. Chapman's results subsequently revealed the truth of the origin and prevalence of pneumoconiosis in the mines at Broken Hill.

The settlement of the Big Strike in 1921 was a high point in the AMA's long struggle for recognition of the difficulties of living and working in remote Broken Hill. Disease affected miners were retired with a lump sum compensation of £2,000. A 35-hour week was awarded for all underground men, and the night shift was abolished (Blainey, 1968; Kennedy, 1978). The miners had won some of the best working conditions in Australia, but it had come at a significant cost to union solidarity. The TLC had again been divided against itself when many of the affiliated unions began returning to work leaving the AMA to continue the action alone (Ellem & Shields, 2002).

In the aftermath of the settlement of the strike, the AMA renamed itself the Workers Industrial Union of Australia (WIUA), a move which signalled a desire to achieve 'One Big Union' representing all Australian workers (Kennedy, 1978). The weakened TLC was superseded as peak union body by the Barrier Industrial Council (BIC). The BIC, under the leadership of E. P. (Paddy) O'Neill set about the task of rebuilding inter-union solidarity (Ellem & Shields, 2002).

After serving a long apprenticeship as an active unionist, O'Neill had become secretary of the South Broken Hill branch of the AMA in 1908. A socially conservative Catholic, he developed an aversion to extreme militancy during the 1909 BHP lockout, becoming frustrated at the union divisions that he witnessed. Paddy's dream was to have one united union ("Eugene 'Paddy' O'Neill – The Uncrowned King of Broken Hill", 2009). Through his union experience, he became a skilful negotiator and an astute leader of men (Ellem & Shields, 2001). Blacklisted by the mines after 1899, Paddy was given a job as a sanitary cart worker by the local Labour Council, allowing him to carry on his union activities without interference.

O'Neill realised that one of the main causes of the recurring union division had been the numerical dominance of the militant underground miner's union, the AMA. Recognising that the AMA was moving hesitantly towards the same realisation, he was able to persuade the miners' union to agree to a maximum of nine delegates to the BIC. This allowed the BIC and the smaller craft unions to benefit from the power of the AMA without the fear of being subjugated to its militant tendencies (Ellem & Shields, 2001). O'Neill's strong leadership of the BIC was able to forge an inclusive union

culture, overcoming the fractured sub-cultural influences which had previously dominated union negotiations with the companies.

For the Broken Hill union members, the longed-for union solidarity had at last been achieved. The potential cost of health compensation persuaded the companies of the virtues of a stable, local workforce rather than trying to force costs down by recruiting workers from outside the town (Kennedy, 1978). The Collins House mines were subsequently able to gradually heal the breach between companies and the BIC, helping to keep Broken Hill almost strike free for the next 60 years (Koenig, 1983), but at a significant cost to the companies.

The Big Easy

The Lead Bonus

In 1925, a resurgent BIC began pursuing a campaign for higher wages and shorter hours in a booming metal market. In a meeting with company directors at Collins House, a non-strike agreement was negotiated by the unions in exchange for a profit-sharing bonus based on the market price of lead (Blainey, 1968; Koenig, 1983). In the highly volatile metals market, the linking of remuneration to the fluctuations of the market may have been expected by the directors to lessen the push for higher base contract rates. The fact that it became the longest-running profit-sharing scheme in Australia is testament to at least a partial fulfilment of this objective, while at the same time delivering to Broken Hill miners average earnings considerably above other Australian workers. The scheme was instituted after the failure of the miners to respond to welfare initiatives that had been proposed by the companies in the hope of re-acculturating workers to a more harmonious commitment to company objectives. The Great Depression, beginning in 1929, depressed the metals market so that the lead bonus had little real effect on wages until after 1934 (Shields, 1997).

As the Great Depression of the 1930s eased, the miners' union, backed by the BIC, began to institute job-control measures. Prominent among these was a ban on the employment of anyone who had not been born in Broken Hill or had not lived within a 100-mile radius for at least eight years (Koenig, 1983; Shields, 1997). Extra-union, communist-inspired 'job committees' also used go-slow tactics to force increases in contract rates. Restrictive staffing levels were enforced, such as the WIUAs rule of 'two men, one machine' (Shields, 1997), which was to prevail in Broken Hill until

successfully challenged by the companies in 1986 (Flynn, 1988). Such job-control measures were union attempts at maintaining employment levels in the face of the increasing mechanisation beginning to be introduced throughout the 1930s (Shields, 1997).

After several adjustments in the intervening years, by 1935 the benchmark cut-in price for the lead bonus was established at £16 per ton, with a bonus of 6*d* per shift for each £1 price increase. Markets had remained relatively sluggish between the depression years of 1925 - 1935, resulting in minimal bonus payments, stagnant contract prices, and rising labour productivity. The increase in labour productivity at this time was mainly attributable to technical innovations in mining (Shields, 1997). In the post-war years, the price of lead boomed, rising from £stg27 per ton to £stg162 per ton, so that by 1951 bonus earnings made up almost half of a miner's weekly pay. The same period, however, saw a marked decline in average employee productivity.

Leading up to the Second World War years, Broken Hill had been transitioning from manual mining techniques to more mechanised ore retrieval. The hand drills had long been replaced by compressed air drills. Picks and shovels were now being replaced by mechanical loaders and underground diesel and electric locomotives, allowing for much greater tonnages of ore to be handled.

A quiet energy revolution was also occurring as the bulky and labour-intensive coal was being replaced by much more efficient petroleum fuels. Being easily transported liquids, these were less prone to union disruption at transport bottlenecks and required far less labour to handle (Mitchell, 2011). Innovative mining techniques were being introduced such as slurry backfilling of mined stopes allowing access to ground previously considered too hazardous. Despite these innovations, however, productivity per man continued to decrease post-war, and bargaining power at the time remained with the unions (Shields, 1997).

The mining industry has often cited worker safety as one of the principal reasons for introducing mechanisation (Stewart, 2016). However, it is logical that capitalist owners will only introduce mechanised methods if doing so is profitable (Mahnkopf, 2019). Any doubt on this point should be dispelled by the case of the handloom weavers of Northern England during the Industrial Revolution (discussed in Chapter 3). Capitalist employers in that instance were able to hold off the introduction of machinery

for twenty years by virtue of their being able to force wages down from 30 shillings to four or five shillings per week before unionisation enabled a reversal of this trend (Thompson, 1966).

Not so readily admitted behind the drive for mechanisation in mining is the desire to reduce a troublesome labour force as far as possible (Stewart, 2016). Frustrating this desire of the Collins House directors at Broken Hill were the job-control and restrictive work practices of the miners, who moderated their work effort in response to the windfall lead bonus. Shields (1997) observed that:

> Far from countervailing the overall trend to lower productivity, it seems that the steep rise in bonus levels in the mid-1940s may actually have exacerbated the decline. As the bonus windfall soared, contract miners appear to have moderated their work effort, contributing to a further decline in productivity. What we appear to have here is the onset of a process of income substitution. (p. 239)

Previously quoted in Chapter 3, and re-stated here, James 'Bronterre' O'Brien (1805-64), a graduate of Trinity College, and described by Thompson (1966, p. 821) as "a theorist of stature to define the working class predicament", wrote in 1836:

> These two classes never had, and never will have, any community of interest. It is the workman's interest to do as little work, and to get as much for it as possible. It is the middleman's interest to get as much work as he can out of the man, and to give as little for it. (as cited in Thompson, 1966, p. 822)

He may have just as well described Broken Hill. F. W. Taylor, the founder of 'Scientific Management' had stated:

> The natural laziness of men is serious, but by far the greatest evil from which both workmen and employers are suffering is the systematic soldiering which is almost universal. (as cited in Davis, 1983, p. 83)

Contract mining had been introduced at Broken Hill in 1892 precisely in a bid to counter the 'systematic soldiering' that the managers believed had been occurring under conditions of waged mining. At the time it resulted in a greatly increased output per man, but with the affluent pay conditions resulting from a runaway lead bonus in the 1940s and '50s, the problem of systematic soldiering had re-emerged. Despite this evident disadvantage of the lead bonus, in a booming market, the companies were well-placed to absorb the increased labour costs and consequently were reluctant to provoke a confrontation that might lead to strike action (Shields, 1997).

After 1952, a downward trend in metal prices allowed management to regain the balance of power to some degree. As the proportion of lead bonus levels of a miners'

pay fell from 49% in 1951 to 16% in 1962, productivity levels per employee increased almost three-fold. This period also saw the Collins House companies superseded by new mining conglomerates such as Conzinc Riotinto Australia (CRA), who favoured a partial reversion to a more confrontational and 'Taylorist' style of management (Shields, 1997). In the mid-1970s, ongoing technological development underpinned a further sustained increase in productivity, despite a steady decline in workforce size, achieved predominantly by voluntary redundancy. The decline in workforce numbers that accompanied the adoption of mechanised long-hole stoping in the CRA mines contributed to a further weakening of union influence. Such technology-labour substitution was to set the stage for an offensive by CRA in 1986 against restrictive union work practices (Flynn, 1988; Shields, 1997).

A Final Reckoning

In the decade after the first OPEC oil price shock of 1973, Australian mining companies faced heavy price competition for exports in a world that was becoming increasingly linked in the process of globalisation. At the same time, the Australian domestic market was struggling due to the policies of the Fraser Conservative Government, which had triggered a wages explosion, double-digit inflation, and the loss of 100,000 jobs in 1983 (Kelly, 1994). The CRA company, with mining operations in Western Australia and Queensland as well as Broken Hill, had been undergoing a decade of management re-structuring under the guidance of CEO Roderick Carnegie, to enable the company to meet the challenges of globalisation. Chief among Carnegie's concerns was the inefficiency of the workforce and the high level of industrial conflict at some of the company's operations (McKinnon, 2007). By the end of 1985, the company was preparing to test the mettle of Australian mining unions at that 'Mecca of Unionism', Broken Hill.

In February 1986, CRA made the shock announcement to their workforce that their Broken Hill mining and processing operations were no longer profitable under present conditions and would close the following week. The city's fourth major mine, North Broken Hill Limited announced shortly afterwards that it also would be retrenching part of its workforce. The total workforce across the four mines was 3010 workers. The registered association of Broken Hill mine managers, the MMA, subsequently served a log of claims on the union peak body, the Barrier Industrial

Council (BIC), citing sixty-three restrictive work practices as contributing to low productivity, making the companies uncompetitive on world markets (Flynn, 1988).

The unions were caught completely off guard by the companies' action, it being the usual practice for a log of claims to be served by the unions on the companies, and not vice-versa. The MMA claimed that the mines could only resume production if productivity were to be increased by 15%, and costs reduced by 10%. In April, the companies sought conciliation through the Industrial Arbitration Commission, which sent Mr Justice Fisher to Broken Hill to act as conciliator (Flynn, 1988).

The unions, unaware that the companies intended to replace previous contract agreements with an award, presented at the conference table prepared only to discuss the dispute. They had no legal representation, and no prepared evidence to counter the companies' well prepared legal submissions to support their claims. Part of the evidence presented by the companies compared production at Broken Hill at 1100 tons per employee per annum with production at Cobar at 3200 tons per employee per annum. The unions were unable to counter this submission. Justice Fisher's recommendation that the unions accept the companies' log of claims was rejected by the unions, leading the companies to apply for arbitration and the granting of an award (Flynn, 1988).

At the subsequent arbitration hearing, again convened by Justice Fisher, the unions were represented by the general secretary of the Miners Federation, a part-time law student. The companies were represented by a Queen's Counsel, a barrister, and a solicitor. Counsel for the unions, unable to counter the companies' statement as to their financial position, was criticised by Justice Fisher for the lack of evidence to support the union's position when he subsequently handed down the Metalliferous Mining (Broken Hill) Interim Award in May 1986 (Flynn, 1988).

During the closure, the companies had offered redundancy payments in a bid to further reduce their workforce. Some 670 workers accepted voluntary retirement, with another 750 being retrenched. After the companies notified the men that if they refused to return to work under the award conditions, they would not receive retrenchment benefits, the unions resumed work on July 22nd (1986). While the interim award was in force, a further 200 men were offered 'voluntary' redundancy, being informed that if they did not accept, at the end of the trial period they would be sacked without retrenchment benefits. On October 21st, 1986, the interim award expired and as the

unions had been unable to challenge the award conditions, they became a permanent part of the current agreement. In her summary of the 1986 dispute at Broken Hill, Flynn offered the following:

> It appears that the Broken Hill unions will have to appreciate the new industrial reality in Australia: that industrial relations cannot be conducted in a legal vacuum. No longer may the law be thought irrelevant to Broken Hill disputes, nor will disputes be localized as in the past, but interstate intervention and direction by the companies' head offices are likely in future confrontations at Broken Hill. (Flynn, 1988, p. 53)

Of all the industrial actions at Broken Hill, two stand out as a signal lesson in industrial relations for both unions and companies. In 1892, amid a global recession, a haughty and disdainful union thought to dictate to the companies the terms under which they would agree to carry out their work. Again in 1986, a union grown fat on the lead bonus thought by restrictive practices to circumscribe a company's prerogative in managing its business. In doing so the union made the mistake to its cost, of not appreciating the changed international circumstances of globalisation in which the company was operating. The lesson is that Polanyi's double-movement is not intrinsically a movement of social forces against the excesses of capitalism. It may rather take the form of a social movement against the excessive use of coercive power in society, from whichever direction it might arise.

Six months after the Broken Hill dispute began, in July of 1986 in what cannot be considered a mere coincidence, mining company Peko Wallsend (soon to be known as 'North Broken Hill Peko Ltd.'), also served a log of claims on its unionised workforce at the Robe River iron ore operations in Western Australia. The protracted legal dispute which followed, no doubt spurred by the legal precedent set by CRA at Broken Hill, became the basis for the de-unionisation of the Pilbara iron ore industry, and the beginning of a new era of industrial relations in Australia (Ellem, 2015). By the time of writing in 2022, there has been no indication of a resurgence of Polanyi's double-movement in favour of the dispossessed working class. Capital, for its part, moves relentlessly closer to full automation of its mining operations in the Pilbara.

Conclusion to the Broken Hill Case Study

Capital as Power

For the working-class miners of Broken Hill, there was from the very outset, a stark confrontation with an imbalance of power. This was conferred by the private ownership of the small number of over-large leases that dominated the 3.2 km of the visible line of lode. Just four companies dominated the field in the late 1880s (Blainey, 1968).

In contrast to the Victorian Government, whose practice had been to allot to individual miners tiny claims from eight to twelve feet square, the New South Wales Government had chosen instead to grant these large leases. Miners arriving in Broken Hill from Victoria must have been incensed at finding themselves put to labour at the pleasure of a few capitalist owners. As Bichler and Nitzan (2012, p. 77), quoted previously, have pointed out, "the primacy of power is built right into the definition of private ownership", leaving the individual miner powerless to resist the control of the companies, which must have been almost absolute, with the capitalists in complete ascendancy in those first years.

Thus was an early impetus given to union organisation at Broken Hill. For individual miners, it was only by combining to speak with one voice that they could hope to meet the power of the companies on anything like equal terms. At issue was the question of control. For the unions, the control of their working conditions, and for the companies, the control of their work processes (Goodrich, 1921). The entire industrial relations history of Broken Hill can be read as a power struggle, with each side attempting to dominate the other in this quest for control. With each successive confrontation, the contest became ever more bitter, and increasingly more polarised.

BHP, as the dominant company by a clear margin in the years before 1909, undoubtedly set the tone of industrial relations in those years. The first two strikes by the workers, in 1889 and 1890, were likely of nuisance value only to the company, which sought to get the miners back to work with minimal loss of productivity and consequent profits. Little was conceded by the company in the resolution of those disputes, although the directors may have harboured a certain lasting resentment against the unions.

The 1892 dispute was a different matter altogether. The onset of the 1890s worldwide depression, coupled with the compounding difficulties of the sulphide ore meant that the BHP company was in a literal fight for survival. The flat rejection by the unions to move to the more efficient contract mining left the company little choice but to reinforce their prerogative to manage by terminating the entire workforce.

After having battled for years with the uncooperative unionists, Manager Howell had decided that the union 'disease' must now be cauterised from the fabric of society. This action established the balance of power firmly back in the companies' domain. Sacking the entire unionised workforce, however, was one thing; blacklisting 3000 individual workers so that they could not get work anywhere else in the town required a certain degree of vindictiveness on the part of BHP that could only serve to poison future industrial relations.

It can be imagined that the effect on the community must have been devastating. All the network ties of 'kinship, neighbourhood, and friendship' among the townsfolk that had been built up over years were sundered in this single stroke. Town businesses lost their market overnight. Sporting clubs and fraternities collapsed as members were forced to leave the district. The whole edifice of *gemeinschaft,* and the 'fabric of society' that had sustained Broken Hill collapsed in upon itself, leaving only 'the company', and its desperate depression harvest of outside contractors.

Some idea of the thoroughness of the devastation wrought on the community can be gauged by Blainey's (1968) statistics for 1897, which showed that from an average workforce for BHP in that year of 2,500 men, 3,100 chose to leave the company's employment. There is more to life than work, but after the 1892 dispute little of the sustaining quality of community life was to be found in Broken Hill. Guillaume Delprat, succeeding John Howell as General Manager at BHP in 1899 (Sawer, 1985), did little to change the company's overt animosity towards the unions.

The Collins House Years

At the beginning of 1909, the company leadership on the field had passed into the hands of the Collins House group of companies as BHP ore reserves declined. The MMA, under the direction of James Hebbard of the Central Mine, set about trying to change the culture of relations between the companies and the unions. This conciliatory approach by Collins House, though laudable in its aspirations, was destined to be, in its

own way, at least as unsuccessful as the heavy-handed approach previously favoured by the BHP Company. The militant unionists, by this time, were so thoroughly alienated that they totally rejected the olive branch offered by Collins House.

The reasoning that led Collins House Directors and managers down the path of appeasement can only be surmised by applying CIT to their subsequent actions. Certainly, they had been first-hand witnesses to the disruptions engendered by the dictatorial style of the BHP managers, and a consultative style of management was not entirely a new idea at the time. Lansbury (1978) recounts the long history of industrial democracy in France, noting liberal-minded industrialists who had experimented with profit-sharing schemes in the mid-nineteenth century. Walpole (1945) noted of British industry:

> The principle of joint consultation at the level of the individual factory is in no sense a new idea. Certain firms have been operating some form of joint consultative machinery for upwards of half a century, and many others can look back on similar experience through periods of from ten to 25 years. (p. 39)

Nevertheless, in Australia, this was a novel idea, and one to which a militant union, now dedicated to the overthrow of capitalism, must have looked with a mixture of surprise and anticipation.

The Quest for Solidarity

In the first 35 turbulent years of the field, the unions had found themselves riven by internal conflict whenever a dispute with the mining companies arose. Two factors contributing to the internal divisions among the miners can be identified. The first is that in the early years the population was dominated by young single men who, in the event of trouble were more likely to buy a railway ticket than a union ticket (Blainey, 1968). The very fact of footloose youth and bachelorhood ensured that CIT would identify these men as comprising a transient sub-culture with little stake in the long-term fate of the community.

The second factor arose as the workforce diversified along occupational lines due to the requirements of capital-intensive company mining. Each occupational sector insisted upon being represented by its own union, effectively creating sub-cultural divisions in the workforce with their own in-group, out-group perspective as described by CIT. A recognition of the need for union solidarity despite the emergence of these occupational sub-cultures led to the establishment of the first union federation in 1886,

the Barrier Trades and Labour Council (Ellem & Shields, 2002). Over the ensuing 35 years in their battles with the companies the unions experienced marked cycles of growth and decline, followed in turn by renewal. At each renewal, the cycle was distinguished by the creation of a new federation as the elusive solidarity was sought (Table 3).

Table 3. *Union federation bodies. Cycles of renewal and decline. Adapted by the author from Blainey (1968); Dale, (1976); Ellem & Shields, (2002), and Kennedy, (1978)*

Year	Federation Body	Cycles of Growth and Decline
1886-1892	Barrier Trades and Labour Council (TLC)	Diversification of the mine workforce saw the advent of occupationally based unions, with the AMA numerically dominant. Two successful campaigns in 1889 and 1890. Defeat by companies in 1892 saw TLC collapse with unions in disarray for the next decade.
1906-1909	Combined Unions Committee (CUC)	Temporary alliance of unions formed to contest wage negotiations of 1909. Beginning of renewal despite some internal conflict. New Trades Hall building completed in 1905.
1909-1916	Barrier Labour Federation (BLF)	BLF emerged as AMA socialist radicals sought to strengthen inter-union cooperation in the wake of the 1909 lockout. By 1914, 95% of workforce belonged to an affiliated union. BLF supports union membership drive in the town. AMA action over 44 hr week caused sectional differences to break out, which only increased during the disruption of the war.
1916-1920	Broken Hill Trades and Labour Council (TLC)	TLC established as a direct challenge to the BLF and the AMA. Trades and Trades Labourers (TTLC) and the Barrier Workers Association (BWA) broke away from the BLF to join the TLC. Inter-union rivalry contributes to the origin and the course of the Big Strike.
1921-1931	Barrier Industrial Council (BIC)	New unity forged in the aftermath of the Big Strike. AMA (now renamed WIUA) persuaded that it could no longer hope to dominate smaller unions. Under president Paddy O'Neill the miners were limited to nine delegates. This went a long way towards avoiding the sub-cultural antagonism which had dominated previous federation bodies.

After the conclusion of the Big Strike, there was new-found and lasting solidarity forged by the BIC under the astute leadership of Paddy O'Neill. This, combined with the more conciliatory management policies of the Collins House group of companies,

saw a relative industrial peace settle upon Broken Hill that was to last for the next 60 years.

O'Neill's personal relationship with MMA president and company manager Andrew Fairweather led to a fruitful round-table negotiation system for the resolution of disputes (Blainey, 1968: Ellem & Shields, 2001). Of this Blainey recorded:

> When George Fisher succeeded Fairweather and spent Saturday mornings in a local hotel with Paddy O'Neill, who for a quarter of a century presided over the Barrier Industrial council, the negotiation system was clearly working well, even if at formal conferences in 1947 Paddy O'Neill still spoke the slogans and threats of 1917. (Blainey, 1968, p. 146)

Such a close relationship between union leadership and company top management may have seemed desirable, but as Weickhardt later noted of such arrangements "[e]ngagement in joint consultation without proper line communication brings out all sorts of irritations, short circuits and discomfitures" (1959, p. 69).

Although details of the effect of this Collins House policy on company frontline supervision have not been recorded, CIT suggests that the cultivation of O'Neill and his successors by senior management, with the resultant disempowering of company frontline supervision, may have contributed to a strengthening of the unions' power over the Collins House bargaining position in the years to come. The Pilbara iron ore companies, Cliff's Robe River, Hamersley Iron, and Mount Newman Mining Company would continue the same mistake in the 1970s (see Chapter 6, The Pilbara Iron Ore Communities: A Meta-ethnographic Synthesis).

The Promised Land

When the profit-sharing lead bonus scheme was introduced in 1925 the Collins House companies hoped that it would calm industrial relations by establishing a buffer against the unpredictable fluctuations of the international metals market. What nobody at the time was capable of foreseeing was the remarkable rise in the price of lead after 1945 in which the London price for the metal in 1951 peaked at £stg162 per ton. Lead bonus payments at this time comprised almost half of a miner's take-home pay, with the result that:

> … senior London executives of the Zinc Corporation were decrying a Lead Bonus Scheme bearing no relation to effort, costs, or profits and lamenting the lack of effort by labour induced by a high standard of living too easily obtainable. (Shields, 1997, p. 241)

Systematic soldiering, or what Galbraith (1998, p. 97) later dubbed as an "organised and unrepentant idleness" had once again returned, and the unions resisted tenaciously the companies' every effort to modify the bonus scheme. In the context of booming market demand and a volatile industrial relations atmosphere, the companies were reluctant to provoke any industrial action by the unions. All that could be achieved was to continue to pursue a course of technology-labour substitution while allowing the workforce to diminish by a process of natural attrition and voluntary redundancy.

By now the miners believed that the balance of power that had lain with the companies during BHPs tenure lay firmly with them. Their own selfishness as a result easily matched that exhibited by that now-departed company. The wheel had turned full circle, and the more benign Collins House management had little answer to the solidarity of the unions under the BIC and Paddy O'Neill.

Further compounding the task of the Collins House management was that the latter part of this period coincided with the post-war Keynesian 'golden age', during which labour friendly policies of full employment and capital restraint were followed by both Conservative and Labor governments (Sangkuhl, 2015). At last, the union leaders would have reasoned, the teeth of the capitalists had been drawn. It was surely only a matter of time and application before the working-class had a dominant, or at least an equal say in the future direction of companies. The 1986 action by CRA against the unions, which had been long anticipated in capitalist circles, quickly disabused them of any such notion.

In Summary

This section summarises the results of the meta-ethnography of Broken Hill and its quest to address the Research Questions. Each will be summarised separately below.

Research Question 1: Socio-cultural & Economic Factors

RQ#1: What are the socio-cultural and economic factors behind the antipathy between capital and labour in mining workforces and associated communities in Australia?

From this first of two meta-ethnographies, preliminary trends can be identified that inform some of the research questions guiding this inquiry. From an economic perspective, there is no doubt that the wild fluctuations of the international base metals market contributed to the development of tensions between capital and labour at Broken

Hill. The companies, being at the whim of market prices were forever looking for ways to reduce costs, of which the wage paid to their workforce was the closest target to hand. However, it is apparent that the inability of the existing technology to separate the difficult sulphide ores before 1909 was an even greater economic constraint. Workers found themselves squeezed between the high cost of basic living in remote Broken Hill, and the sometimes-genuine inability of the companies faced with market and ore difficulties, to increase wages.

With the successful development of the flotation process to treat the sulphide ores, much of this economic constraint appears to have receded. This allowed the neglect by the companies of underlying socio-cultural factors affecting the health, safety and well-being of the workers to achieve due prominence. Such factors as contributing to the tensions between capital and labour at Broken Hill stemmed from the apparent indifference of the companies to the living conditions of workers, described by George Dale as 'frightful'.

Until the conclusion of the Big Strike, continually emerging sub-cultural divisions that gave rise to demarcation issues among the mining workforce made it impossible for the workers to challenge the companies' neglect with a united front. By 1921, with unions united under the federation of the Barrier Industrial Council, circumstances suggest that the more militant miners had finally come to understand the necessity of solidarity under the inspired leadership of Paddy O'Neill. Had they been able to achieve such resolve during Delprat's tenure at the MMA, the likely ensuing intransigence of both parties may well have led to a premature collapse of mining on the field. As it was, after the generous conditions won during the Big Strike, many smaller companies became unprofitable, contributing to unemployment, and leaving much ore unmined when they closed (Blainey, 1968).

From an exploration of Research Question 1 it would appear that much of the antipathy between capital and labour at Broken Hill arose from either an inability, or an unwillingness of each to see matters from the others viewpoint. This established a preliminary benchmark from which to address the remaining two research questions. Some of the more important socio-cultural and economic factors contributing to the antipathy between capital and labour in the Broken Hill mining community are summarised in Table (4).

Table 4. *Socio-cultural and economic factors contributing to the antipathy between capital and labour at Broken Hill*

Socio-cultural factors	Economic factors
Disparity between manager's and workers' living conditions in Broken Hill	High cost of living in remote Broken Hill
Union counterculture – to overthrow 'greedy' capitalism	Processing of difficult sulphide ores
Sub-cultural divisions in the workforce preventing a united front	Fluctuations of the metal market prices
Wide ethnic mix in the community further contributing to cultural divisions. (In-group, out-group divisions)	Differential profitability across companies
Class schism with State instruments, i.e., police and judiciary supporting capitalist owners against the working-class	Arbitration Court in the opinion of employers favouring workers
Radical external influence of socialism, communism, and the IWW	High level of death and disease among workers. No compensation from the companies before 1920
Contract mining further reinforces sub-cultural division and hostility	Introduction of mining by contract causes economic disparity among workers
Importance of community perception and support in a dispute	Financial support from community and outside unions during disputes
Isolation of the community – Kerr-Siegal hypothesis	Global recessions
Lack of familiarity of American managers with individualistic Australian trade unionists	Restrictive work practices by unions (union greed)
Differential support for war effort by companies and unions – perception of 'capitalist war'	Technology-labour substitution; increases efficiency
	Conditions won by miners after the 1920-21 strike made smaller companies unprofitable

A Further Influence

The leadup to the WWII years witnessed a gradual trend in the balance of power away from the unions. This was facilitated in part by the change from coal as the carbon energy source, to petroleum-based fuels (Mitchell, 2011). Coal, which had been powering industry since the Industrial Revolution, had major disadvantages in its distribution networks by virtue of its high bulk and manual handling requirements. There were many bottlenecks, at the coalface as well as in the railyards and ports, where industrial action could block the supply of this energy source, holding industry and commerce to ransom until union demands were met (Gibson, 1984). The union stranglehold over this vital energy source was one of the principal reasons that coal

workers were able to win such significant concessions from employers in the pre-war, and immediate post-war years, and the Broken Hill miners were quick to support their brothers in the New South Wales coalfields (Dale, 1976). As Mitchell noted:

> The ability of organised workers to assemble a political machine out of the networks and nodal points of a coal-based energy system had shaped the kinds of mass politics that emerged, or threatened to emerge, in the first half of the twentieth century. (Mitchell, 2011, p. 42)

Petroleum oil, being able to be pumped through pipelines and easily shipped in bulk was much less vulnerable to industrial action than the carbon energy distribution networks of the coal age (Mitchell, 2011). After WWII, however, the full employment policies of Keynesianism allowed unions to slowly regain the initiative until the emergence of neoliberalism heralded the beginning of the fourth Great Cycle.

CIT

This meta-ethnography of Broken Hill has shown that the recurrent and cyclical nature of the antipathy between capital and labour can be observed through behaviours and events that are both internal and external to mining communities. As the antipathy between companies and unions rose towards a maximum under these influences, the potential for a shift in the balance of power increased. This may have been precipitated by internal factors such as in 1889 when miners struck over the perceived unfairness of managers in requiring 'single-handed' working underground. Alternatively, when companies felt threatened by the union's intransigent and unsympathetic approach during external influences such as global recessions or World War, the resulting pitch of antipathy provoked dismissals, stand-downs, and lockouts from the companies. CIT suggests that in each case the resulting actions of both the companies and the unions stemmed from either an inability or an unwillingness, to see the matter from the other's point of view. It became a case of 'let the devil take the hindmost', with the resulting residual bitterness being harboured against the next cycle of confrontation.

Research Question 2: Cycles

RQ#2: What explanations can be found for the recurrent and cyclical nature of the antipathy between capital and labour?

From the Industrial Revolution to the present, this research has been able to trace four Great Cycles of alternating dominance in the capital-labour conflict. The first of these cycles began with the subjection of the handloom weavers of 18th century England

to capitalist entrepreneurs, which saw their wages beaten down mercilessly from 30s per week to a mere 4s or 5s. In 1834, the workers fought back with the formation of a Grand National Union, intent on social reform. This resurgence of the working-class was followed by a wave of short-lived socialist revolutions that toppled governments from France to Italy (Hobsbawm, 1995).

The second Great Cycle, which began around 1848 when alarmed employers in England struck back with government assistance, saw workers once again reduced to penury. In Australia, unions were able to recover strongly from this setback due to the relative scarcity of labour compared to overcrowded England. In 1888 and 1889, miners at Broken Hill won concessions from the companies during industrial actions in those years.

The third Great Cycle had its beginning in the World recession of the 1890s. In Broken Hill in 1892, the BHP company sacked and blacklisted the entire mining workforce. In Queensland, the shearers were defeated after a series of bitter strikes and clashes with employers (Spence, 2013). In defeat, the labour movement turned to the political system, forming the first Labor Parties in Australia. At Federation, the Labor Party was able to influence the introduction of arbitration for the settlement of disputes, which allowed the union movement to regroup and rebuild. After the disruptions of WWI, the Great Depression, and WWII, the Keynesian 'Golden Era' began, which allowed the unions to eventually gain the upper hand.

The fourth Great Cycle, which reached transition in the mid-1980s with the conquest of neoliberalism, is still, after some 37 years, in the upswing of capitalist ascendancy. In the act of overreaching itself, militant labour precipitated a revitalisation of the very market forces that Polanyi believed would ensure the destruction of the fabric of society. There has to date, been no sign of the re-emergence of Polanyi's 'double-movement' in favour of the beleaguered working-class.

Although stopping short of attribution, a parallel should be noted with similar 'long wave' cycles of around 50 years, incorporating upswings and downswings in economic fortunes, which were first proposed by Russian economist Kondratieff in the 1920s (Kelly, 2002). Kondratieff's own explanation of the existence of these long waves was that they followed cycles of investment, however, literature since that time has centred around whether long waves actually exist or are just statistical coincidences. Kelly

(2002, p. 86) has suggested that it is possible to account for 'Kondratieff' long waves as "alternating periods of worker mobilisation and employer and state counter-mobilisation" which accords well with the observations of this research (Table 5). The period between 1892 and 1985 has presented some difficulty in interpretation due to the intervention of WWI, the Great Depression, WWII, and the advent in Australia of Federal industrial arbitration in 1904. John Kelly (2002) has suggested that the absence of a shift in the balance of power in the 1930s when it might have been expected may be reflective of a common weakness in both companies and unions at this time.

Table 5. *Capital-Labour conflict cycles showing possible Kondratieff 'long-waves', based on mobilisation theory*

Adapted from Kelly (2002)	Upswings (Years)		Downswings (Years)		Length of Cycle (Years)
	Late 1840s – early 1870s (25y)		Early 1870s – early 1890s (20y)		45
	Early 1890s – WWI (22y)		WWI – WWII (25y)		47
	WWII – early 1970s (27y)		Early 1970s – present (26y)		53
Authors interpretation from: Blainey (1968); Dale (1976); Devine (2007); Kennedy (1978); Thompson (1966); Webb & Webb (1894)	Capitalist (counter) - mobilisation		Worker mobilisation		Length of Cycle (Years)
	1794 - 1834 (40y)		1834 – 1848 (14y)		54
	1848 – 1888 (40y)		1888 – 1892 (4y)		44
	1892 – 1930 (38y)	**WWI-Depression-WWII (occulted cycle?)**		1930 – 1985 (55y)	93(Occulted cycle during Depression?)
	1985 – 2022 (37y)		Not yet evident		37 (to date)

A further inference that can be drawn from Table (5) is that after 37 years of capitalist counter-mobilisation since 1985, the next long wave in favour of worker mobilisation will soon be coming due.

As previously noted, the potential for worker mobilisation increases when workers acquire a sense of injustice (Kelly, 2002). When such a sense of injustice is transformed into collective action a shift in the balance of power becomes possible. In

Broken Hill, over the 100-year history of the field, the balance of power shifted between the unions and the companies several times. It is not a straightforward matter to account for every one of these shifts as there were often several interlinking factors at work. However, two of the four Great Cycles referred to above stand out at once. The third Great Cycle, beginning in 1892 at Broken Hill, coincided with the World recession and the sulphide ore difficulties that precipitated an employer and state counter-mobilisation against the unions. The fourth Great Cycle came to a climax in the mid-1980s as a result of the capitalists again resolutely mobilising against the unions (Table 6). As in the findings of Research Question 1, a significant degree of selfish consideration is evident in the actions of both the companies and the unions in the rises and falls of these cycles.

Table 6. *Cyclical nature of tensions between capital and labour at Broken Hill indicated by balance of power shifts*

Date	Balance of power fluctuates	Balance of power unions	Balance of power companies
1889-1890		Buoyant market – union ascendancy	
1892			World recession - market decline – sulphide ore – company ascendancy - BHP
1908-1909	Market decline – sulphide ore – BHP passes leadership to Collins House	Unions begin to consolidate under the more benign management of Collins House and the introduction of arbitration	
1916	Buoyant market – WWI – Collins House – Last arbitration		
1917	Strike to support coal miners – overthrow capitalism – Collins House - WWI		
1919-1920		Big Strike – union ascendancy – Collins House	
1925-1986		Union ascendancy – Great Depression – Collins House – Almost strike free for 60 years - CRA	
1986			Company ascendancy – Globalisation - CRA

Research Question 3: The Future

RQ#3: What implications might the ongoing antipathy between capital and labour have for the future of industry development and employment in Australia in the 21st century and beyond?

From this initial Broken Hill case study some preliminary inferences may be drawn for the future of industry and employment in this country. Blainey (1968) noted that one of the reasons for the diversification of Broken Hill companies into secondary industry rather than continuing with other mining ventures was their disillusionment with the militant labour they had experienced in the mines. The diversification of BHP into steelmaking is such a case in point. This experience by companies would have supplied a strong impetus towards a technology-labour substitution to avoid as far as possible a repetition of the uncertainty of operating an enterprise in the face of a strong union counterculture. Such a trend is further evidenced by the great strides in technology-labour substitution achieved in the Pilbara iron ore mining industry, which is taken up at greater length in Chapter 6.

To conclude with an adapted quote from Winston Churchill: Broken Hill 'is not the end. It is not even the beginning of the end. But it is, perhaps, the end of the beginning'. The narrative that takes up 'the beginning of the end' shifts 2,282 kilometres to the west of Broken Hill, to the iron ore mining district of Western Australia's Pilbara region. From the Pilbara, the narrative will shift back to the eastern coal fields of New South Wales and Queensland. It is here, on these contemporary iron ore and coal mining fields that the lessons learned, or not learned at Broken Hill, will decide who shares in the future prosperity of Australia. It is from here too, that the possibility of a future recurrence of Polanyi's double-movement will be considered.

Chapter 6.

The Pilbara Iron Ore 'Communities': A Meta-Ethnographic Synthesis

Introduction

Chapter 6 presents a meta-ethnographic synthesis of literature pertaining to the development of the Pilbara iron ore mining 'communities' of Western Australia. The study focuses on industrial relations (IR) between the unions and the major companies involved, from the beginning of operations in the 1960s to the end of the 20th century. From the IR perspective in Australia in the 1960s, there was a practically seamless transition from the Broken Hill narrative presented in Chapter 5, to events as they began to unfold across the Pilbara. The CRA company which had superseded the Collins House group of companies at Broken Hill after 1952 was the very same organisation that was the principal partner in Hamersley Iron. From the union perspective, the isolation of the Pilbara from the state capital in the south as well as from the major population centres on the east coast meant that it took them some time to get organised. However, when they did begin to make their presence felt across the Pilbara they were, in their philosophy and expectations, much the same Australian unions which had achieved maturity in Broken Hill and other mining and industrial centres across Australia over the first half of the 20th century.

Following on from the Broken Hill meta-ethnography, the Pilbara narrative draws from case studies, journal articles, and publications, to continue tracing the reasons for the recurring tensions between capital and labour in the mining industry. As with Chapter 5, and in line with the nature of a meta-ethnography, the synthesis is presented in a narrative form, bringing together the different accounts of the development of industrial relations in the community, to achieve an interpretive element informing the research questions, that is not immediately apparent in the source documents.

'Of No Value'

During the 1930s, a popular myth was perpetuated, that Australia possessed only limited reserves of iron ore which it would need to conserve for its own use (Ellem, 2017). This was apparently in response to the requirement for a diplomatic decline to supply iron ore to Japan, which was at the time, busy brutalising China in its

preparations for a future engagement in WWII. In fact, as Bradon Ellem pointed out, geologists had known since the early 1890s that the Pilbara District of Western Australia was iron country, "with enough to supply the whole world" (Ellem, 2017, p. 12). However, in terms of mining logistics of the late 19th century, there was no conceivable way that these deposits could ever be economically mined. There were no nearby coal deposits that might have allowed in-situ processing into steel, and the nearest potential seaports were hundreds of kilometres away.

After WWII, any idea of developing these iron ore deposits continued to languish under the Federal Government embargo on iron ore exports. This situation persisted until recurring difficulties with Australia's balance of trade in the 1960s prompted the Menzies Government to remove the embargo early in 1961. This action cleared the way for exports to Japan's emerging steel industry (Lee, 2015).

There was still no guarantee that the vast deposits in the Pilbara could be economically developed. The district is even more isolated than Broken Hill if that were possible. Lying 1600 kilometres north of the state capital Perth, the Pilbara District covers an area of around 500,000 square kilometres of arid semi-desert (Ellem, 2017). There were no inland towns, and the occasional isolated cattle stations were linked only by unsealed tracks. The few coastal towns, hundreds of kilometres from known iron ore deposits, boasted no port facilities. (Ellem, 2017). The development in the 1960s of iron ore mining operations in the Pilbara on a scale sufficient to ensure economic viability was always going to be, by any measure, a formidable undertaking. One that, at times, has been compared to the Snowy River Hydro-Electric Scheme in its scope (Lee, 2015).

The sheer scale of mining machinery and infrastructure required to develop the Pilbara iron ore industry had never previously been envisaged in Australia (Lee, 2015). Chapter 5 introduced some of the technological developments in underground mining as Broken Hill had progressed from manual mining methods to mechanisation. Hand drills, picks and shovels, and blasting powder gave way to compressed air drills, modern explosives, and mechanised methods of ore handling such as underground loaders and electric or diesel locomotives. The Pilbara deposits, by contrast, were massive sedimentary ore bodies that, at Mount Tom Price, comprised 600 million tonnes in a band "three or four miles long and up to 4000 feet wide" (Lee, 2015, pp. 25-26). Such deposits were admirably suited to open-pit mining. To achieve an appropriate economy

of scale to exploit such high-volume, low-value deposits required a mechanised approach an order of magnitude greater than anything used at Broken Hill. Mining trucks, which in the 1950s had averaged 35 tonnes, were by the end of the 20th century approaching 350 tonnes (Bozorgebrahimi et al., 2005). Such massive Load, Haul, Dump (LHD) trucks required shovels, loaders, locomotives, bulk ships, and port facilities of a comparable scale.

The capital investment required far exceeded financial resources then available in Australia. This necessitated that international partnerships be sought by the three companies, Goldsworthy, Hamersley Iron, and Mount Newman Mining, which were initially awarded contracts to mine by the Western Australian Government (Lee, 2015). These were later joined in 1970 by Cliffs Robe River Iron Associates, to complete the 'big four' who would go on to develop the Pilbara iron ore industry in the 1970s. Finance approval from American banks was dependent upon sound development proposals, as well as signed undertakings from Japanese steel mills to purchase the huge quantities of iron ore that were envisaged (Lee, 2015). Without this demand from international markets, the Pilbara would never have come into existence as a mining region (Ellem, 2017).

The construction phase was dominated by large contracting companies which had undertaken to complete the necessary mines infrastructure, railways, and port facilities within very short time frames. Julie Tracy (1994) stated that the Hamersley construction was, at the time, one of the most ambitious engineering and construction projects undertaken in Australia. Completed in August 1966, it comprised a deepwater harbour at Dampier, the open-cut mine at Mt Tom Price, and 182 miles of heavy-duty railway from the mine to the port. In 1966, a peak construction workforce of 3000 workers was employed on the Hamersley project by American, Canadian, and Australian contracting firms (Tracy, 1994).

The Companies

Mount Goldsworthy

The Mount Goldsworthy partnership was the first Pilbara company to export iron ore to Japan. (Lee, 2015). Consolidated Goldfields Australia had partnered with two American companies, Cyprus Mines Corporation, and Utah Construction and Mining, and in 1966 sent the first shipment of 20,000 tons of ore (Lee, 2015). The

smallest of the companies, Goldsworthy ceased production in 1982, and in 1990 the site was acquired by BHP (Mining Legacies, 2022). Being of such short duration the Mount Goldsworthy operation does not feature in this meta-ethnography.

Hamersley Iron: From Broken Hill to Paraburdoo

In 1905, the Zinc Corporation had been formed at Broken Hill in New South Wales to process the mountain of discarded zinc-bearing tailings that the newly developed flotation process was promising to make economically viable. Renamed Consolidated Zinc in 1962, the company merged with the Australian branch of British company Rio Tinto to form Conzinc Rio Tinto Australia (CRA) (McKinnon, 2007). In 1928, Maurice Mawby (later Sir Maurice), Broken Hill born and bred, had joined the Zinc Corporation, becoming mill foreman in 1935 (Strahan, 2000). Subsequently becoming a director, and then chairman of CRA in 1962, Mawby oversaw the partnership agreement with American company Kaiser Steel which formed Hamersley Iron as a company to develop the massive iron ore bodies discovered at Mount Tom Price and Paraburdoo in the Pilbara. By the mid-1970s, Hamersley Iron had become the fifth-largest company listed on the Australian stock exchange (Lee, 2015). In 1984, the CRA company acquired 100% of Hamersley Iron (McKinnon, 2007).

Mount Newman Mining Company

The Mount Newman deposits were initially taken up by American company, American Metal Climax (AMAX), which formed a partnership with the Australian Colonial Sugar Refining Company (CSR) in 1964 (Lee, 2015). Due to anticipated development costs, BHP was persuaded to buy into the Mount Newman project, raising Australian equity in the company to 60%. The BHP company, with ageing infrastructure in its steel mills, and in the face of increasing competition from resurgent post-war German and Japanese steel production (Wilshire, 1978), was open to the possibility of returning to its historical roots in mining (Lee, 2015). In 1986 BHP spent a further $880 million purchasing the CSR and AMAX interests, raising its equity in the Mount Newman project to 85% (Lee, 2015; Swain, 1996).

Robe River Iron Associates

The Robe River development was initially undertaken by American mining company Cleveland Cliffs in partnership with Australian company Robe River Limited, to become Cliffs Robe River Iron Associates (Lee, 2015). Ultimately, the partnership

would be comprised of Cleveland Cliffs (30%) with management responsibility, Mitsui Iron Ore Development Company (35%), with Mount Enid Iron Ore (5%) and Robe River Limited (35%) giving an Australian equity of 40% (Lee, 2015). Cleveland Cliffs, as a specialist pellet-plant producer, had secured a long-term contract with Japanese steel mills to supply 71 million tons of iron ore pellets over a 21-year period (Lee, 2015).

In 1983, Australian company Peko-Wallsend bought out Robe River Limited. In 1985 it also acquired the holdings of Cleveland Cliffs to give it a majority share of the company, now renamed Robe River Iron Associates (Ellem, 2017). In 1988, the North Broken Hill company, shortly to change its name to 'North Limited', merged with Peko-Wallsend, only to be taken over in 2000 by CRA, now known as Rio Tinto (Lee, 2015).

This acquisition made Rio Tinto one of the largest iron ore miners in the world and left the greatest majority of the Pilbara iron ore industry in the hands of two of Australia's largest companies, Rio Tinto and BHP (Lee, 2015). It is the three companies, Robe River Iron Associates, Hamersley Iron, and the Mount Newman Mining Company that are the focus of this meta-ethnographic study of industrial relations in the Pilbara. The study traces the outworking of the antipathy between capital and labour from the rise of militant unionism in the Pilbara in the 1970s until the ultimate containment of the unions by the last of the companies in 2004 (Ellem, 2017).

The Governments

The Labor party in Australia had its origins in the class warfare of the 1890s depression when employers and governments united to break down the hard-won conditions of Australian unions (Archer, 2007; Howard, 1977). Despite the bitter and prolonged strikes of this era, the unions found themselves unable to prevail against such concerted opposition. In defeat they sought redress through the political system, forming the first Labor parties in Australia, initially in New South Wales in 1891, from where they expanded to the other states (Archer, 2007).

Since that time, the Australian political system has been characterised at both state and federal levels by a two-party system in which either Conservative or Labor parties have held power in turn for various intervals. Little ideological progress has been evident since the development of that initial dichotomy, with the

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Liberal/Conservative parties supporting policies favouring capitalist employers when in power, while the Labor parties, in their turn, have taken opportunity to promote policies favouring unions and workers. As evident from Table (7), the period under study from the 1960s to the present has shown little variation from this pattern.

Table 7. *Federal and State Governments during the Pilbara operations*

Date	Federal Government	Date	WA Government	Government Action
1961 - 1972	Liberal – Menzies - Holt	1959 - 1971	Liberal – Sir David Brand	Menzies Federal removes export restrictions on iron ore (Lee, 2015)
1972 - 1975	ALP - Whitlam	1971 - 1974	ALP – Tonkin	Federal Minerals and Energy Minister Connor places export controls on companies
1975 - 1983	Liberal - Fraser	1974 - 1983	Liberal – Court – O'Connor	Threat by state and federal to deregister unions over strike action (Ellem, 2017)
1983 - 1996	ALP – Hawke – Keating	1983 - 1993	ALP – Burke – Dowding - Lawrence	State threatens withdrawal of Robe River's mining licence during dispute. Hawke Federal publicly condemns company (Swain, 1996)
1996 - 2007	Liberal - Howard	1993 - 2001	Liberal – Richard Court -	Both state and federal pass *Workplace Relations Acts* to introduce contracts and reduce union power (Ellem, 2017)
2007 - 2013	ALP – Rudd- Gillard - Rudd	2001 - 2008	ALP - Gallop – Carpenter	State mandates to phase out contracts (Ellem, 2017). Rudd Federal proposes 'mining super profits tax' (ABC News)
2013 - 2021	Liberal – Abbot – Turnbull - Morrison	2008 - 2017	Liberal - Barnett	Morrison Liberal proposes *Fair Work Amendment Bill 2020,* to further attack union power (The Conversation, 2021)
		2017 -	ALP - McGowan	

The IOICC

The Iron Ore Industry Consultative Council (IOICC) was an initiative of the newly elected Hawke Federal Labor and Burke State Labor Governments. The Council's inaugural meeting was in August 1984 (Swain, 1996). Embodying strategies of the Hawke Governments' 'Prices and Incomes Accord', its function was to provide for consultation between all concerned parties, governments, companies, and union officials, on matters of importance to the iron ore industry. Pam Swain recorded that

"none of the managements interviewed, with one notable exception, felt that the IOICC was other than a showcase for government and union consensus policies" (Swain, 1996, p. 55). That exception was Gordon Freeman, CEO of Mount Newman Mining from 1986 to 1988, who became an enthusiastic supporter.

The Commission

Commissioners in the Western Australian Industrial Commission during the period under consideration were appointed by the State Government. As a body, the Commission was empowered by an Act of Parliament with wide discretionary powers within that Act to facilitate conciliation proceedings, or alternatively, to enforce settlement through arbitration (Swain, 1996). Conciliation proceedings enabled Commissioners to call a compulsory conference between management and unions in the event of a dispute, in which the Commissioner could act in an advisory capacity to allow the parties to reach agreement. Because of the intractability of the unions, the usual advice of Commissioners was for the companies to make the major concessions necessary to achieve agreement (Swain, 1996). This would certainly have been a contributing factor to the incremental gains of power leading to the union dominance of the 1970s and 1980s. Ellem (2017) noted that for Charles Copeman and his Peko-Wallsend team at Robe River, the Industrial Relations Commission was almost as much of a problem standing in the way of company reform as were the unions. The strategy adopted by Robe River management:

> … was to force the unions to prove that they had specific rights under the law in the workplace and with regard to the organisation of work and employees, and to challenge every finding by the Commission which gave such rights to the unions. (Swain, 1996, p. 235)

When challenged in this way the Commissioners were repeatedly found to have acted beyond the limits of their power, and therefore forced to retract (Swain, 1996). The Industrial Appeal Court consistently upheld appeals by the company, prompting the Chief Commissioner to complain that "if this was the letter of the law then … the law was wrong and should be changed" (Swain, 1996, p. 238).

The Communities

The Early Years

In the 1960s, Australia was still firmly in the grip of the post-war Keynesian boom. After the war, the government had sought to boost productivity and national

security through an accelerated immigration program (Woolmington, 1958). Many of the workers who found early employment in the Pilbara were drawn from this tide of war-displaced persons from Eastern and Southern Europe. Anglo workers in the Pilbara found themselves rubbing shoulders with Yugoslavs, Italians, and even Japanese (Ellem, 2017). Torres Strait Islanders also figured prominently in the building of the ore railways to the coast (Lui-Chivizhe, 2011).

Although union membership in Australia had declined from a peak of 64.9% of the workforce in 1948 to 49% in 1970, it had recovered to around 56% by 1975 (Bowden, 2011). It is entirely plausible that the great increase in immigration during these years may have been responsible for some of the decline in union membership to 1970. Certainly, Ellem (2017, p. 26) recorded of the Pilbara, "one American construction manager recalled that the 'New Australians' did not mind hard work and laboured away without the thought of a strike entering their minds". The manager of Dampier port operations for Hamersley was able to state of this initial phase of operations:

> … we really didn't have Industrial Relations problems as such. It was really a straight master/servant relationship. It was accepted by both sides. We didn't have an Industrial Relations procedure. Everything was very informal. It was a construction atmosphere. Everyone was just there to get the job done. (Swain, 1996, p. 193)

Of these early days Vassily has noted that power rested squarely with management, although he continued "[p]ower dynamics between the companies and their workers changed substantially during the period 1965-72; the unfettered managerial prerogative present when companies started Pilbara operations had been pared back a few years later" (Vassily, 2018, p. 113). By the 1970s, grassroots unionism had become so strong that it was almost impossible for managers to sack anybody (Vassily, 2018).

The Rise of Union Militancy

The benign beginning of IR in the early 1960s was turned on its head over the following two decades, with the Pilbara quickly becoming a byword for union militancy (Vassily, 2018). Such a profound reversal requires an explanation. What had changed from the 1960s to provoke such an overt reaction? To re-visit Kelly (2002), who in outlining the mobilisation theory of industrial action, maintained that the potential for collective action arises when workers acquire a sense of injustice. However, as Kelly

argued, for this sense of injustice to be transformed into collective action, three further processes are required: 1) *attribution:* is the unjust situation the employer's fault? 2) *social identification:* collective identification of the working-class as having separate and conflicting interests to those of management, and 3) *leadership:* the ability of leaders to frame issues in such a way as to promote and maintain a sense of injustice.

Attribution

In the late 1960s and early 1970s, it was not difficult for the workers to acquire a sense of injustice. Vassily noted that work environments were generally not airconditioned, were dusty, and often unsafe. In the pelletising plant "workers would be black and stinking from the dust, which became a key grievance identified by unionists" (Vassily, 2018, p. 112). By the 1970s industrial relations were deteriorating rapidly. Pam Swain highlights the pressure from militant union representatives whose attitude was:

> … 'if you won't pay, we'll down tools'. It was also due to supervisors who fought to maintain a tradition of toughness and 'I'm the Boss'. This led to bad management. There was no real attempt to change and find solutions. Both sides took the hard line. (Swain, 1996, p. 194)

Social Identification

Collective identification among the workers was considerably promoted in the early years after the advent of the company towns. In the 1960s and early 1970s, the companies had built seven new towns to house their workforces: Tom Price; Dampier; Goldsworthy; Newman; Wickham; Paraburdoo, and Pannawonica (Vassily, 2018). Initially, administration of these 'company towns' had enhanced management's arbitrary abuse of power, but according to Ellem (2017), they quickly became vibrant centres of social and political life, transforming themselves into centres of a powerful local union movement.

The parallel with Tönnies' *gemeinschaft* is evident. The Pilbara townships had matured into 'societies of communities' as people found their way among the socialising sub-cultures of community life. The 'community of place' and the 'community of spirit' generated as people became more intimately associated in their leisure hours was sufficient to ameliorate some of the in-group, out-group differences that arose from the occupational divisions of the workplace.

This sense of collective identification among workers was greatly diminished from the mid-1980s by the introduction of FIFO, along with rising state and employer antagonism (Ellem (2015). Seen in this context, it becomes rather obvious that the introduction of FIFO was intended as a direct assault on the centres of union power that the towns had become. Such was the resilience of these human societies conferred by the network of relationships built up by association, that only such desperate action by the companies enabled them to eventually undermine union power.

Leadership

Hamersley believed at the time that their biggest industrial relations problem was the advent of 'the Pommy shop stewards'. Described as militant tradesmen recruited from Britain and New Zealand, their main aim was to build a union stronghold and personal prestige (Swain, 1996). It was not difficult for such leadership to convince the workforce that management was responsible for their grievances and was doing little about it.

There was a further factor instrumental in fostering militancy among the union leadership. The shortage of labour resulting from the full employment policies of the government of the time, combined with a high turnover of workers due to the harsh conditions of the Pilbara meant that workers were not readily replaced (Ellem, 2017). As H. M. Thompson recorded:

> Relative full employment in the late 1960s and company haste to meet the demands of the Japanese steel industry put individual workers and unions in a unique bargaining position vis-à-vis capital. The result was high wages, primarily due to lengthy overtime rosters; control over the shop floor by shop stewards; and the development of 'customs and practices' favourable to unions. (Thompson, 1987, p. 70)

In all three Pilbara companies in the 1970s and early 1980s, conciliatory management policies had been aimed at avoiding workplace conflict, only as will be seen, to eventually fail in all three companies.

Demarcation Disputes

With a tendency to undermine the collective identity of workers to a sometimes-significant degree was the necessary segregation of labour in the workplace. In a similar pattern to that observed in the study of Broken Hill, such industrial-scale mining necessitated divisions of labour dictated by the work requirements. Bradon Ellem detailed the categories of work codified in the 1967 mining award for the Pilbara:

> It set out six different functions: quarrying, crushing, transporting, treating, storing, and loading. The tribunals thereby gave legal sanction to the division of labour which the companies had created. The award process purported to regulate workplace relationships collectively, that is between unions and their employers. At the same time, it codified the fragmentation of the workforce. In years to come, unions often threw themselves into bitter disputes with each other about who had the right to cover which types of work. (Ellem, 2017, p. 35)

As at Broken Hill, CIT indicates that such a division of labour must provoke the formation of in-group, out-group identification which will lead inevitably to jealousies and inter-union disputes. In the 1980s, the resulting demarcation disputes became a most significant aspect of industrial unrest on the Pilbara as individual unions battled each other over who had the right to cover different work activities. At times, the bitterness of these disputes reached bizarre proportions, as exemplified by the worker who stood up at a mass meeting to exclaim "look, I would be willing to take a 10% reduction in pay if we could get a 15% reduction for those bastards in the other union" (Thompson, 1983, p. 86). As had happened at Broken Hill, this 'in-group, out-group' ideology foreshadowed by CIT continued to undermine working-class solidarity. The companies were not only able to use these confrontations to control the labour force but were also believed at times, to be not beyond initiating such disputes to manipulate the unions (Ellem, 2017).

Kerr-Siegel Hypothesis

The conditions of work on the Pilbara mirrored that of Broken Hill in the physical isolation of the site as well as the unpleasant conditions which prevailed. As proposed by Kerr and Siegal, such conditions tended to produce an 'isolated mass' of workers in which sometimes petty grievances could be magnified out of all proportion. The loss of perspective that can occur in both workers and management as such an isolated environment becomes a closed world, may be attributable to the (perhaps apocryphal) incident where a strike was called over the lack of certain flavours of ice cream in the canteen (Swain, 1996).

The International Markets

The rise in union militancy also coincided with a significant downturn in the metal market. The halcyon days of the 1960s and early 1970s, when companies could sell as much metal as they could produce gave way to the 1980s in which Japanese steel mills were able to set the conditions under which they would purchase the ore (Swain, 1996). Cost control and productivity, previously paid scant attention in the quest for

continuity of production, would now become critical to company survival. The Japanese steel industry made a brief recovery in the late 1980s and early 1990s, before slumping again through the 1990s (Lee, 2015). Markets would remain in uncertain fluctuation until the Chinese boom of the early 21st century, by which time union power had been eclipsed and the companies were firmly in control of the Pilbara (Ellem, 2017; Lee, 2015).

Fightback: Hamersley Iron

Roderick Carnegie (later Sir Roderick) succeeded Sir Maurice Mawby as Chief Executive of CRA in 1972, also becoming Chairman upon Mawby's retirement from that position in 1974 (McKinnon, 2007). Carnegie, concerned with the high level of union militancy and low productivity in the CRA companies, was determined to effect a change (McKinnon, 2007). Benchmarking of CRA's mining operations against Canadian mining companies had shown that Canadian productivity was significantly higher, a worrying concern for a company competing on an international market (Lynch, 2011).

Max Griffiths (1998) has pointed out that even after CRA's partnership with Kaiser Steel to form Hamersley Iron, there remained a deeply embedded Broken Hill culture in the company. Men such as Maurice Mawby, John Ralph, and Leon Davis, had grown up in the Broken Hill Zinc Corporation, and in the later company evolution, CRA. With strong family union backgrounds, Ralph and Davis in particular felt that they knew unions and unionism (Griffiths, 1998). Mawby, as a humanist and an inspiring leader, professed a personal philosophy that "in the ultimate sense development is concerned with people: the development of human personality and understanding is really the objective of all economic endeavour" (Strahan, 2000). CIT would suggest this was a philosophy learned at the feet of Collins House Director W. S. Robinson who had a great influence on the young Mawby (Strahan, 2000).

Griffiths may well have said 'Collins House culture'. CRA's approach at this time would appear to be much the same conciliatory management style that had been practised by Collins House companies at Broken Hill in an attempt to contain industrial action. Additionally, as appears to have happened at Broken Hill with the cultivation of BIC President Paddy O'Neill, senior management at Hamersley had undermined the

authority of company frontline supervision by allowing union convenors to have direct access to themselves. Of this Pam Swain noted:

> The status of union site representatives had been raised by senior managements' willingness to treat them as important authority figures in the industrial relations procedures, with the right to gain access and discuss matters directly with executives at any time. The industrial relations procedures had created a system of direct communication between convenors and senior executives and had given the convenors privileged access to company information with the result that they would know more about company plans and personnel matters, for example, than lower levels of management. (Swain, 1996, p. 214)

The policy of appeasement clearly was not successful. Despite Hamersley's willingness to broker peace agreements with unions, the 1970s were rife with industrial disputes. After a ten-week strike in May 1979, the company decided it had to recover the right to manage (Swain, 1996). Carnegie had realised that before he could deal with the unions, his first task was to restructure CRA management (Lynch, 2011; McKinnon, 2007). Beginning in 1979, this process resulted in fewer levels of management, with each of those having greater authority, as well as accountability in their exercise of power. The focus was particularly on the empowerment of frontline supervision (Swain, 1996). Many managers who could not measure up were made redundant during this time (McKinnon, 2007).

By 1981, with a newly restructured management team in place, CRA's, and Hamersley's industrial relations objectives were to restore a primary employer/employee relationship. Under this new regime, unions were to be relegated to an outside third party to that relationship. The Western Australian Industrial Commission was also to be confined to the role of referee, external to the employer/employee relationship (Swain, 1996). A strategy designed to isolate union convenors was instituted to reduce their power in the workplace (Ellem, 2017). With Hamersley Iron perceived as one of the jewels in the crown of CRA, the company was proceeding at a considered and cautious pace. In 1984 the Deputy Premier of Western Australia, commenting on the importance of Pilbara iron ore mining, stated that:

> … it has paid hundreds of millions of dollars in royalties to the state government … created thousands of jobs … established towns and communities in the North West … and transformed the face of the Pilbara. (as cited in McKinnon, 2007, p. 54)

Such a jewel was not to be handled incautiously.

A Return to Roots: CRA at Broken Hill, 1986

If Hamersley Iron was the jewel in CRA's crown, Broken Hill in 1986 was a fading star in that diadem, with mineral reserves all but exhausted. The thought processes of CRA top management at the time, of course, remain privy to themselves. However, with a newly restructured management team in place, CIT encourages the speculation that there was little to be lost, and perhaps much to be gained, in testing the mettle of the Broken Hill unions in February of that year, before taking on the troublesome Pilbara unions at Hamersley Iron (see: Chapter 5. The Broken Hill Mining Community: A Meta-Ethnographic Synthesis).

A Crisis in Management: Cliffs Robe River

Cliffs Robe River Iron Associates in 1970 was the last of the big three mining companies under consideration to begin operations in the Pilbara. Having missed the honeymoon period of industrial relations during the 1960s the company faced a fully unionised workforce from the very beginning where awards and work practices were already established (Swain, 1996). From the outset, the joint venturers, facing heavy loan repayments, had been insistent that management avoid any industrial disruptions to production. This policy of putting market imperatives above all other considerations led to a gradual loss of control of the operations as an increasingly confident union leadership negotiated a raft of favourable arrangements. These had the effect over time of restricting the company's ability to manage (Swain, 1996).

The isolation of the Pilbara had led to the development of a strong local grassroots unionism which became increasingly independent of state union leadership based in Perth. Workers elected their shop stewards, who in turn appointed the union convenors. Bradon Ellem noted that "[t]he union convenors and shop stewards were, for many, the essence of all that was wrong with the Pilbara, the cause of all the problems" (Ellem, 2017, p. 47). It was at Cliffs Robe River that the full-time union convenors achieved the most powerful status (Swain, 1996). Such was the sway that these convenors exercised over the rank and file that they were in a position to fulfil Kelly's (2002) third criterion of mobilisation theory in being able to frame issues in such a way as to promote and maintain a sense of injustice among the workers. Pam Swain records that the pattern of industrial disputation in the Pilbara:

> … resulted from the control over the workforce and therefore the workflow,
> exercised by the convenors and shop stewards. Their power was demonstrated by

> stop work meetings called without notice, perhaps only lasting an hour or two, or their refusal to allow a workgroup to proceed with a work order. (Swain, 1996, p. 86)

An example given by Swain of the extent to which this union leadership was also able to usurp management's prerogative at Robe River was that of union convenor, Norm Marlborough, who:

> … use[d] industrial power to acquire an office, and a telephone, in the treatment plant, which had been designated for the foreman's office. The displacement of the foreman, and the apparent support of senior management for the empowerment of the convenor in this action, was regarded as symbolic by the workforce, and affected the ethos of union-supervisor relations in the workplace in all the Robe River operations. By 1976, one of the myths of the Pilbara concerned Norm Marlborough, a fitter by trade, appearing for work carrying a briefcase and wearing a suit. (Swain, 1996, p. 82)

By the late 1970s, the power of these union convenors was such that no front-line supervisor could insist that they work at their designated company position. Thus emboldened, convenors at Robe River had become accustomed to their "authority to question, and indeed on occasion to dictate, the terms under which the operation would function on a day-to-day basis" (Swain, 1996, p. 115). When Cliffs management decided to increase the size of ore stockpiles at their port facilities at Cape Lambert as a buffer against industrial action, the AWU convenor haughtily informed the company that the union would never agree to allow such a situation (Swain, 1996). One is put in mind by these circumstances, of the prophetic words of the irascible manager Cyril Emery at Broken Hill in 1919, when he argued that "once Broken Hill men owned the earth they would clamour for the moon" (Kennedy, 1978, p. 148). Just as in 1919, on the Pilbara too, union demands would admit to no bounds.

A Failure of Industrial Democracy

Management's answer to its perceived loss of decision-making power was to propose a joint power-sharing structure with the site union representatives. In April 1982, in response to the General Manager Operations offer to negotiate with the unions to introduce a 38-hour week to be followed up by a 35-hour week, a Joint Steering Committee (JSC) was formed. The JSC was composed of approximately equal representatives of union leaders and management. During subsequent negotiations, it was agreed by all that the shorter working week could be achieved at minimal cost to the company if the unions undertook to maintain production (Swain, 1996). Management was hopeful that if the convenors were given managerial-type decision-

making responsibility they would see continuity of production as a mutually beneficial objective (Swain, 1996).

After the union objective of the 38-hour week had been gained, the convenors lost any interest they might have had in maintaining production. They began to absent themselves from meetings of the JSC. Some of the management representatives also resigned, citing disillusionment at the total lack of commitment of the unions to either increasing productivity or cutting costs (Swain, 1996). All pretence to cooperation by the unions was dropped in July 1983, when the AWU convenor at the Pannawonica mine site read a prepared statement from the unions which effectively terminated the JSC (Swain, 1996).

The failure of this exercise in participatory management should have been a sufficient warning to Cliffs' management that the union leaders had not the remotest interest in sharing responsibility for the running of the company. For the convenors, it was simply a cynical exercise in the demonstration of their power to deliver benefit to their members, with a total absence of motivation to achieve greater efficiency in the work processes. An ample demonstration of this was shown at the second meeting of the JSC when position papers were tabled showing that serious problems in work efficiency were occurring across the operation. The papers were criticised by the union as being 'unhelpful' and 'heavy-handed' and were withdrawn at the following meeting at the union's request (Swain, 1996).

Management Manages

With the authority figure at shop floor level now being the convenor or the shop steward, line management was left with no power to control the work process. A foreman could be disciplined or even sacked by management for challenging the control of union leadership over staffing levels or work practices. Pam Swain has provided the transcript of an interview with the Superintendent of Port Operations:

> We had situations where people were caught filling up the boots of their cars with goods from the warehouse. There was an occasion where the warehouse superintendent caught a group red-handed and reported them for theft. One worker went to his convenor. The word came back that the employees had been harassed. A written apology was demanded from the warehouse superintendent to the employees. The manager told him he had to write it. He refused. So the manager wrote it. (Swain, 1996, p. 179)

Early in 1986, it was becoming obvious that the situation was completely out of control. With ongoing bans, restrictive work practices, and no control over staffing levels, both the port and the mine were operating at only 60% capacity, and the project was in danger of becoming unviable (Swain, 1996). Having anticipated the development of this unpromising situation, minority shareholder Peko-Wallsend had earlier resolved to take action to safeguard its investment.

In December 1983 Peko-Wallsend had taken over the Australian company Robe River Ltd, in the process acquiring a 35% interest in the Robe River operations (Copeman, 1987). In late 1985 Peko acquired a majority holding in the Robe River operations by purchasing the shares of the American parent company Cleveland Cliffs. This gave it a 50.9 % share. It had been apparent to Peko for some time that there was considerable over-employment at the operation, and that productivity was suffering under the weight of almost 300 restrictive work practices (Copeman, 1987). Despite this, Cliffs' management was, in the words of Peko CEO Charles Copeman "very reluctant to allow Peko to pursue its own investigations into employment matters, or to discuss what were termed to be 'industrial relations sensitive matters', particularly at the work site or with employees or union officials" (Copeman, 1987, p. 539). Faced with this intractable situation, Copeman presented at the Head Office of Cliffs Robe River in Perth at 0730 on July 31st, 1986, and terminated the majority of the Cliffs executive team (Swain, 1996).

The new Peko management team arrived on-site at Robe River with one simple message to the workforce: 'Management manages'. "Henceforth, all staff and employees would work strictly as directed within the registered awards and agreements" (Swain, 1996, p. 252). Restrictive work practices which were not part of an award agreement were to cease immediately; staffing rosters would be decided by management, and all full-time union representatives were to return to their designated jobs (Swain, 1996). Considering the subsequent actions by unions and the Western Australian Industrial Commission it should be noted that upon taking over management Peko-Wallsend proposed no changes to the industrial award that had been in force during Cleveland Cliffs management tenure. All that Peko insisted upon was that the unofficial 'sweetheart deals' and restrictive work practices would no longer apply, and that work would be conducted strictly under the previously agreed and registered award.

The swiftness and completeness of Peko's attack on the centres of union power caught the unions by surprise. Peko appears to have taken a leaf out of Hamersley Iron's 1981 IR manual by isolating the convenors, and empowering frontline supervisors with sole responsibility for controlling the workplace. CEO Charles Copeman had expected that the sweeping changes introduced would lead to industrial action by the unions, but this did not occur. Instead, union officials and convenors held meetings with (ALP) State Government members and, unofficially, with Western Australian Industrial Commissioners, to consider how they might best thwart Peko's plans (Swain, 1996).

Emboldened by these discussions, union convenors returned to the worksites, advising employees to refuse to accept the new work arrangements. Commissioner Coleman then instructed the company that it was acting illegally and ordered it to return to the status quo existing before the Peko takeover. Peko management, believing that it could not at the same time comply with this order while maintaining the safety of the operation, closed the mine site and dismissed the entire waged workforce (Swain, 1996). Such action is reminiscent of BHP manager John Howell's action in terminating the entire Broken Hill workforce in the 1892 strike. Copeman, however, did not follow through with the vindictiveness that Howell demonstrated in blacklisting the Broken Hill miners.

The union's immediate reaction to the dismissal of the workforce, far from admitting defeat, had been to initiate indefinite strike action at the port against the company in defiance of a Commission order. This effectively prevented any ships from being loaded. They refused to justify their action with a list of grievances, leading management to conclude that they aimed to regain their lost control of the company and that a major motivation was the loss of status and power suffered by the convenors and shop stewards (Swain, 1996).

Peko responded to Commissioner Coleman's order by appealing for a judgement at the Court of Appeal of the State Supreme Court. On August 22nd, the Full Bench of that court found that the Commissioner had exceeded his authority in issuing his instruction. Peko then issued a series of expensive and intimidating writs in the civil courts seeking damages from the unions for loss of revenue. In the face of a company clearly determined to pursue legal action against the unions, negotiations between Peko CEO Charles Copeman and ACTU President Simon Crean began to bear fruit. The

writs issued by Peko were then withdrawn as a condition for a resumption of work, with the result that there was a peaceful return to work on January 27th, 1987 (Copeman, 1987). Of this action, Pam Swain noted that:

> Within five weeks of taking over management of the company, the new management team had destroyed the Pilbara myth of union infallibility in the workplace. They had succeeded in establishing a new criterion for work practices in which they could insist on formal procedures under the award being observed. (Swain, 1996, p. 269)

In early 1986 the Cliffs Robe River operations had been facing insolvency due to a loss of control of the work processes by management. The great experiment in worker participation and industrial democracy by the company had been revealed as a failure (Ellem, 2017). The vindication of Peko-Wallsend's and Charles Copeman's precipitate actions came in December 1989 when analysts were enthusiastically forecasting that Robe River Iron Associates would achieve the highest margin of income above operating costs, outperforming both Hamersley Iron and Mt Newman. By early 1995 the level of industrial disputes at Robe River had dropped to zero (Swain, 1996).

Hamersley Iron: A Measured Response

In contrast to the direct frontal attack on the unions by Robe River, Hamersley, during 1986 had been preparing the groundwork for a new award which it served upon the unions in early 1987. The objective of the 1987 award, which mirrored the intent of the award served by CRA on the Broken Hill unions in 1986, was to promote greater control of work processes by management. This was to be achieved by taking back the determination of staffing requirements, integration of work tasks, and multi-skilling of the workforce to avoid demarcation disputes, along with alternative shift systems and work hours to achieve more efficient spans of work. Surprisingly, the unions mounted little real opposition to these measures (Swain, 1996). One of the factors responsible for this muted union response was undoubtedly the changed Industrial Relations climate in the Pilbara as a result of the ongoing high profile Robe River dispute.

By 1988, having achieved a substantial level of control in the workplace, Hamersley began anticipating more human resource motivated policies. Their 1988 Annual Industrial Relations Plan outlined their vision for the future. Cited by Pam Swain it read "[o]ur major challenge is in establishing a rapport and identity of purpose and commitment between the company and its employees" (Swain, 1996, p. 228). Surely, an anticipation of the future offer of staff contracts. Such an outlook would not

have been possible had the company not been able to strategically limit the power of the Commission and the unions to influence employee responses to workplace issues, but the battle was not yet over.

Union Defeat

Bruce Hearn McKinnon (2007) records a comprehensive account of the final subjugation of the Hamersley unions. Following on from legislation introduced by the Court Liberal Government banning compulsory unionism in Western Australia in 1979, Hamersley had removed the union membership clause from its employment agreements in 1982 (McKinnon, 2007). Despite this, a *de-facto* compulsory unionism still largely existed at Hamersley, sustained by the custom and practice of industrial relations, until, as McKinnon (2007) records, the company showed a determination to counter this practice in mid-1992.

During a levy on Hamersley union members in 1992 to support striking workers at Burnie in Tasmania, it was discovered that a fitter, Phillip Beales was a non-unionist. As Beales refused to join the union, organisers demanded that Hamersley sack him, which the company declined to do. The ensuing strike action led to the closing down of Hamersley's operations on June 17th, 1992 (McKinnon, 2007). After ten days of strike action by workers, and with ships waiting offshore to load, the company signalled its intention to hold the unions liable for loss of revenue amounting to $49 million, at the time the largest legal action taken against unions in Australia's history. Intimidated by this threatened legal action, union organisers ordered a return to work on Monday, June 29th. There they found that the company had raised an injunction restraining the unions from further industrial action, and any action to prevent Beales, or any other non-unionist, from returning to work (McKinnon, 2007).

With the unions caught wrong-footed by this action, Hamersley quickly moved to retain the initiative. Union militants caught harassing non-unionists were dismissed, and the distinction between work done by staff and that done by award employees was abolished. As a gesture of good faith, the company announced that a wage increase would be awarded to the workforce, at the same time as voluntary separation packages were offered to those who seemed unlikely to fit in with the new company culture. The workforce was reduced by 13% in this process (McKinnon, 2007).

The election of the Coalition Government in Western Australia in early 1993, and the introduction of its *Workplace Agreements Act 1993 (WA)*, enabled Hamersley to put the final finishing touches to its long-planned workplace reform. The workforce was offered staff contracts which carried increases in salary, better job security, and access to the company's health insurance and staff superannuation scheme (McKinnon, 2007). Around 90% of the workforce accepted this offer, which amounted to a profound rejection of union leadership. Of this McKinnon recorded:

> The workforce, which only a year earlier had 'lined up' strongly behind the leadership offered by the unions, now switched allegiances, choosing instead, to accept the strong leadership now provided by management. More than any other factor, a recognition of the changed balance of power, in favour of management, seems to have been the key ingredient in the take-up of individual contract offers and the subsequent collapse in union membership at CRA's Hamersley operations. (McKinnon, 2007, p. 65)

It was left for Bradon Ellem to wonder about Phillip Beales, the non-unionist who precipitated the downfall of the Hamersley unions. No trace of him was found, and no answer was forthcoming to the question "was he part of an elaborate trap set for the unions in June 1992"? (Ellem, 2017, p. 114). Be that as it may, by 1995, and concurrent with the same achievement set by Robe River, but with far less controversy, confrontation, and publicity, the level of industrial disputes at Hamersley Iron's Pilbara operations had also dropped to zero (Swain, 1996).

Mount Newman: A Study in Consensus

Of the 'big three' companies under consideration in this study, BHP appears to have had the greatest commitment to a participatory management style. After the Iron Ore Industry Consultative Council (IOICC) was established in 1984 at the behest of the Federal (Hawke ALP) and State (Burke ALP) Governments as an instrument to foster the consensus approach of the 'Prices and Incomes Accord' among the companies, only Gordon Freeman, CEO of Mount Newman Mining showed enthusiasm. Pam Swain recorded "he was an enthusiastic supporter of the council and used it as a forum to state his belief that unions and management could work together harmoniously in the Pilbara" (Swain, 1996, p. 55).

Prior to the appointment of Freeman as CEO, Mount Newman operations had been constrained by having to refer all policy decisions to Melbourne for approval. This led to a situation in which site management had little option but to follow the rules to

safeguard their jobs (Swain, 1996). After spending a further $880 million in 1986 to increase their share of the company, the BHP board intensified their quest for increased productivity at Mount Newman. Freeman's appointment was accompanied by the stated philosophy that "[t]hrough participation and consultation our Company seeks to improve the quality of work-life of its employees in return for increased profitability of its business" (Swain, 1996, p. 121). The application of this philosophy saw the company embrace the Commission and the union convenors as partners in the management of employee matters. As in the previously considered Pilbara companies, this approach had the effect of sidelining frontline management with a consequent deleterious effect on the morale and effectiveness of foremen (Swain, 1996). In a 1988 interview with Commissioner Gregor, Pam Swain recorded him as saying:

> Frankly, I would not believe any management would be prepared to trade away what the Mt Newman management gave away. I told them so, and said they were asking for trouble, and did they realise what they were conceding. They didn't like it, and made it clear that they were the management experts, and I didn't understand participatory management. (Swain, 1996, p. 155)

By 1988, despite the extensive consultation that had been conducted between union convenors and senior management, the hoped-for increase in productivity had not materialised. The CEO, in a newsletter to employees on June 30[th,] announced that the company was in a crisis, and in danger of being unable to fill its orders unless productivity was increased (Swain, 1996). With productivity at just 9,000 tonnes per employee compared to Robe Rivers' production at 14,000 tonnes per employee per year, he laid the blame for the shortfall on disruption due to work bans and continual stoppages. Still, he persisted with a policy of consensus and consultation, stating:

> We anticipate a positive response … because we are looking to move together with them, not in a confrontationist way … we think that the unions, both the state officials and site representatives, will appreciate fully the crisis we are in and will work together with us. (Swain, 1996, p. 335)

Despite this plea for cooperation, production continued to fall due to industrial action. The unions refused to accept responsibility for the shortfall, blaming it instead on management's overly ambitious marketing program (Swain, 1996).

Belatedly, in September of 1988, management appears to have realised that their policy of empowering the union convenors had achieved little beyond diminishing their authority to manage. In issuing the directive that convenors would no longer be recognised, management stated that "twenty years of experience has shown that this

system of employee representation has done little to assist the company business and has often impeded its ability to manage the business effectively" (Swain, 1996, p. 340). Strikes and stop-work meetings became almost continuous as unions attempted to halt the procedures. Amid this turmoil, Gordon Freeman appears to have had his own 'road to Damascus' moment, warning that "the more militant individuals' agenda includes bringing the company to its knees because loss of jobs is relatively unimportant to the long-term goal of reversing the roles of capital and labour" (Swain, 1996, p. 343).

His realisation was to be too little, and too late. Following the resignations of the General Manager Mining Operations, and the Mine Production Manager, officially for health reasons, BHP announced on November 14th that Gordon Freeman had been terminated, followed by Owen Ihlein, head of industrial relations. With the convenors authority still virtually intact, Pam Swain recorded of the resultant Mount Newman production shortfall:

> On the 11th November, The West Australian newspaper reported that other Pilbara mines had 'poached the slack' and picked up bonus shipments worth $30 million. Hamersley Iron alone was quoted as having filled extra orders for 800,000 tonnes worth $16 million. (Swain, 1996, p. 348)

With the grand experiment in participatory management in tatters, BHP was, in the mid-1990s, the only unionised operator left in the Pilbara (Ellem, 2017).

The 'New' BHP

Perhaps seeking to revive a strategy that had been so successful at Broken Hill in its historical past, a chastened BHP in the late 1990s looked outside of Australia to recruit a series of high-profile CEOs (Ellem, 2017). Concurrent with this change in recruitment policy came the opportunity at Mount Newman to move their workforce to the kind of individual all-staff agreements that had been so successful at Hamersley Iron. The opportunity was afforded after the Court Liberal Government in WA introduced its Workplace Agreement policy (WPAs) in 1993. The WPAs that Mount Newman subsequently offered to the workforce contained substantial wage increases with the object of enticing workers to walk away from the unions. Die-hard unionists played on the WPA acronym, dubbing both the agreements and those who signed them as 'woppas' (Ellem, 2017).

However, resignations from the unions reached 46% within the first two months, prompting the unions to take a hard look at themselves. Local union leaders admitted

that the infighting of demarcation disputes had been a serious mistake and that they had done little for their members since the company backdown in 1988 (Ellem, 2017). With the change to WPAs preventing the unions from representing those who had signed, they decided to fall in with the ACTU led strategy of challenging the company in the Federal Court. The legal strategy would argue that the company had breached the *Workplace Relations Act* by preventing the freedom of association and the right to belong to a union (Ellem, 2017).

The Federal Court handed down its decision in favour of the company on January 10th, 2001. The ruling was that the offer of individual contracts did not preclude a worker's right to belong to a union, however, the company was within its rights to exclude unions from discussions over workplace change (Ellem, 2017). This was something of a landmark case that Ellem (2017) rightly believed held implications for employment relations across the country. Noting that it effectively separated membership of a union from the activities of a union, he called it a 'black letter law' which "flew in the face of a century of labour law and practice" (Ellem, 2017, p. 130).

Union diehards, who came to defiantly wear the epithet 'the last 500' fought a desperate rear-guard action to rally the communities behind their cause. This was to no avail as the companies had begun to introduce FIFO, which, perhaps inadvertently, or more likely, purposely, divided union community strongholds from worksites. As Bradon Ellem stated:

> The towns had long been troublesome for the companies and, as recently as the 1999 dispute, mobilised as sources of union power. If towns could be done away with, so much the better … By early in the twenty-first century, more than half the workforce would be FIFO workers and, with longer hours, it was clear that life, work and employment relations in the Pilbara would be transformed. (Ellem, 2017, p. 137)

By 2001 the once all-powerful unions of the Pilbara had succumbed to the changing work environment. Rio Tinto and Robe River were non-union, and less than half of the BHP workforce at Mount Newman belonged to a union (Ellem, 2017). A new era of industrial relations had dawned in Australia, with far-reaching implications for the future of work and employment throughout every workplace in the land.

Summary of the Pilbara Case Study

When union organisers began to take interest in the Pilbara, they were confronted by anti-union sentiment, cultural differences, and hostile employers.

Yugoslavs presented a particular difficulty in that they spoke little English, and were strongly anti-communist, a creed that they tended to equate with unionism (Tracy, 1994). Although the heat and aridity of the Pilbara were a trial for some, the messing and accommodation conditions were of a higher standard than the State's construction industry, which only made the union organisers' task harder (Tracy, 1994).

The Pilbara situation in this period was not unlike the early years of Broken Hill. Between 1885 and 1889 at Broken Hill, there was little evidence of disharmony between workers and management, and little inclination of workers to become involved in a union (Kennedy, 1978). In 1889 the impetus for the Broken Hill unions to organise was provided by the mine managers' insistence that miners undertake 'single-handed' work underground. In the Pilbara in the late 1960s, the separation of multiple mine sites by hundreds of kilometres, and the absence of any single unifying cause at one time meant that union organisers had to adopt an incremental approach.

Julie Tracy (1994) related how Australian Workers Union (AWU) organiser Gil Barr had to wait for a dispute to develop at a site. He would then move in to resolve the dispute, which sometimes meant having the workers reclassified and paid at the proper rates. Through painstaking repetition of this process, he was gradually able to build a following among the workers. One of the early disputes during the construction phase was over the quality of the midday meals. Cold meat and salads were delivered to construction sites in plastic bags which by lunchtime had become a soggy mess in the extreme heat. It took strike action to have the food delivered in eskies rather than plastic bags (Ellem, 2017; Tracy, 1994).

Distance from union headquarters in the capital Perth only increased the difficulty for early union organisers. Although the AWU, which serviced the civil contractors had an organiser living in the region from the beginning of construction, it was still a formidable task for one person to drive the hundreds of kilometres between mine sites to service members. Trades people who were usually English speaking were covered initially by the Amalgamated Engineering Union (AEU). These fared somewhat better as most had had experience with unionism during apprenticeships, or in previous unionised jobs (Tracy, 1994). Still, there was just the one AEU organiser, Colin Hollet, to service all the mine sites, and no AEU organiser lived permanently in the Pilbara during the construction phase between 1965 and 1972 (Tracy, 1994).

From such an inauspicious beginning it may well be wondered how local unionism was able to rise to such militancy and power during the 1970s. Before attempting an answer to that question, it will be useful to revisit John Kelly's (2002) discussion on mobilisation theory. Kelly maintained that the potential for collective action arises when workers acquire a sense of injustice. For this sense of injustice to be transformed into collective action requires three further processes:

1) *Attribution.* Is the unjust situation the employer's fault? The example above of the soggy lunchtime meals is a sufficient example of something that was within the employer's power to rectify, although it took industrial action to bring it about.

2) *Social identification.* It has been discussed previously how the company towns quickly became centres of social and political life, enhancing workers' collective identification. It is no surprise, therefore, that the peak of union power coincided with the solidarity fostered in these 'societies of communities'. No surprise either, when union strength faltered as the companies undermined the communities with FIFO and contract workers.

3) *Leadership.* The ability "to frame issues so as to promote a sense of injustice about what had happened" (Kelly, 2002, p. 32). Underlining the importance of this third criterion, Kelly (2002) cited studies that show that union members typically belong to one of three distinct categories: 1) a minority of members who require little encouragement to strike; 2) a second group who, while initially uncertain might join if the action seemed likely to succeed; 3) a third group who remained always reluctant and would only grudgingly give in to social pressure. This accords well with observations at Broken Hill. George Dale (1976) recounted the 'skull dragging' and 'persuasion' that was necessary in 1889 to convince reluctant miners of the necessity to join a union, while Kennedy (1978) recorded that the *Barrier Miner* newspaper attributed the socialist influence in the union after 1909 to 'a small band of zealots' numbering between 25 and 30.

In the more contemporary example of Robe River in the Pilbara, the H. R. Nichols Society, of which Peko-Wallsend CEO Charles Copeman was chairman at the time, attributed the industrial strife to a small number of the on-site union leadership, the convenors and shop stewards. The H. R. Nichols people believed that workers had a natural commitment to the employer, which was being subverted by the militant

leadership (Ellem, 2017). As noted previously, Bradon Ellem, although stopping short of endorsing the viewpoint himself, commented "the union convenors and shop stewards were, for many, the essence of all that was wrong with the Pilbara, the cause of all the problems" (Ellem, 2017, p. 47). Was it perhaps that the site union leadership in the Pilbara was particularly effective, and if so, why?

The 'Pommy Shop Steward'

Pam Swain related that the General Manager of Personnel at Hamersley Iron believed that it was the recruitment policies of the company that had led to poor industrial relations. His opinion was that:

> The recruitment of tradesmen in Britain and New Zealand had brought into the workplace the 'Pommy shop stewards' whom he regarded as the firm's biggest industrial relations problem. He defined a 'Pommy shop steward' as a militant tradesman who had deliberately set out to create a strong site union network. (Swain, 1996, p. 195)

In the 1960s and 1970s, the 'Pommy shop steward' was a notorious figure across Australian metal trades workshops. This author can attest to both the validity and the ubiquity of the phenomenon, through experience gained during a trade apprenticeship in a Brisbane engineering workshop during that period.

Andrew Scott, writing for the *Recorder* magazine of the Melbourne Branch of the *Society for the Study of Labour History*, also reported on the use of the descriptor "Pommy shop steward" in the following:

> The influence of British migrants and their traditions in Australia would continue after World War Two with a new wave of working-class migrants, some of whom were regularly labelled, in the 1970s, by conservative politicians and commentators as "pommy shop stewards", bearers of "the British disease", and criticised for their apparent disproportionate prominence in industrial disputation. (Scott, 1999, p. 4)

In August 1977, Sir Jack Egerton saw fit to criticise 'Pommy shop stewards' in an interview for a *Bulletin* article. Claiming support for a prior similar criticism by Deputy Country Party leader Ian Sinclair, Egerton was quoted as saying:

> The Pommy shop steward, as distinct from the English migrant, has been responsible for a change in the pattern of industrial behaviour in Australia. Arriving in Australia, many at a time when the rigid, intractable attitude of employers and the arbitration tribunals and the use of penal clauses were destroying the confidence of Australian workers in Arbitration tribunals, the English shop stewards found fertile fields to till. (Reid, 1977)

Mining the Future: Post-Market Society and the Capital-Labour Conflict

In November 2005, the member for Corangamite, the honourable Stewart McArthur MP, in addressing the Federal House of Representatives on the subject of the *Workplace Relations Amendment Bill 2005* also referred to 'Pommy shop stewards'. This was in relation to the Robe River operation having been "controlled by a few Pommy shop stewards demanding unreasonable conditions" (McArthur, 2005, p. 87). Having established the 'Pommy shop steward' as a genuine phenomenon during the period under consideration, it might now be possible to propose an answer as to why such leadership could have been so effective in the Pilbara.

W. A. Howard drew a contrast between unionism as it developed in Britain, and as it has developed in Australia. In Australia, which is the only country other than New Zealand to have established an arbitration system, unions did not evolve to settle disputes or administer agreements, but rather to "bring disputes in manageable and orderly proportions before the tribunals" (Howard, 1977, p. 266). While a few militant Australian unions, such as the Maritime Union (MUA) and the Broken Hill mining unions consistently chose to avoid the arbitration system, the majority of unions in this country have accepted the need for arbitration to avoid ruinous struggles with employers (Howard, 1977). The Pilbara mining unions are a case in point. The Australian system, according to Howard, was one in which:

> … the society passed to governments the task of creating an industrial relations mechanism which would provide a measure of peace and which would shield the whole society from the distasteful effects of industrial struggles. (Howard, 1977, p. 273)

The result has been for Australian unions to have evolved a culture in which they have been largely relegated to the bureaucratic role of representing their constituents before the Arbitration Courts (Howard, 1977). Typifying the Australian industrial scene, it was this alliance of unions with the Arbitration Court which came to comprise Polanyi's *double-movement* against market capitalism in this country.

By contrast, the culture of trade unionism in Britain had a long history of development without the protection of an arbitration system. Under the British system, shop stewards had much greater autonomy to pursue industrial matters on the shop floor, while the central union bodies concerned themselves more with political issues (Howard, 1977; Scott, 1999). This long tradition of shop steward autonomy from union officialdom situated the locus of industrial disputes firmly within the province of the

local shop steward, who as a result became well versed and highly capable in the tactics of industrial confrontation with intractable employers.

It does not take much imagination to apprehend the outlook of such hardened and capable negotiators who found themselves on the Pilbara at a time when the companies were flirting with industrial democracy as a way to minimise conflict. The isolation from union headquarters in Perth was of little concern to the shop stewards who were used to operating autonomously. To also have a quasi-autonomous arm of government in the Arbitration Commission inclined to favour unions as a way of keeping the peace must have seemed to them like they had found the promised land.

The Balance of Power

As noted previously, the construction phase, which lasted from the mid to late 1960s, was not marked by any significant industrial action. Bradon Ellem recorded that the workforce was "wholly male, itinerant and worked and lived in very inhospitable conditions" (Ellem, 2015, p. 13). A master-servant relationship prevailed during this construction phase, with power resting squarely with management (Vassily, 2018).

It was during the early production phase in the late 1960s that the balance of power began to shift away from management to the mining and production workforce. By this time, the construction contractors and many of their itinerant workers had moved on to other projects, leaving the further development of the enterprise in the hands of the mining companies with their more permanent workforce. The part played by the communities and the union convenors and shop stewards in this realignment of power have been highlighted, but the companies themselves must also bear a large part of the responsibility for this loss of control.

It was noted earlier in this chapter, and in Chapter 5, how the Collins House companies at Broken Hill had adopted a consultative style of management to limit industrial conflict within their workforce. Senior management of the time cultivated a direct relationship of discussion and negotiation with union leadership, which although it often had the short-term effect of contributing to industrial solutions, left the company frontline supervision dangerously exposed. This practice may have been the origin of the 'Broken Hill culture' inherited by CRA, and much lamented by later management.

Neither was CRA alone in this experiment in industrial democracy. In the late 1960s and 1970s in Australia, economic boom conditions and full employment

promoted high labour turnover and record industrial disputation (Policy Research Group, 1978). In this climate of developing militancy, company management was ready to adopt any new measures that might combat these features. Industrial democracy, or management participation by workers, had become popular in Western European capitalist countries. In Australia in the 1960s, it seemed like an idea whose time had come (Ellem, 2017; Markey & Patmore, 2009).

Governments at both national and state levels developed policies encouraging employers to adopt employee participation in management (Markey & Patmore, 2009). The Hawke Labor Government's Prices and Incomes Accord after 1983 was a further evolution of this thinking. To the Pilbara iron ore companies, facing huge levels of debt repayment and stringent supply contracts, encouraging union leadership to participate in management considerations must have seemed like an ideal way to avoid critical disruption of supply. The result was a three-way committee style of management in which any points of disagreement were to be resolved by discussion between management and union leadership, with the Western Australian Industrial Commission mediating the discussion. Early acquiescence to union demands by the companies anxious to avoid disruptions to the work processes, played right into the hands of the experienced convenors, who took every opportunity to incrementally increase their power (Swain, 1996).

The Power, and the Glory

It is left to be wondered at this remove, just what the ultimate agenda of the union leadership at the time might have been. Mount Newman CEO Gordon Freeman, after his 'road to Damascus' conversion in 1988, concluded that the more militant individuals' agenda was nothing short of the overthrow of capital by labour. This echoed the determination of the 1917 Broken Hill union leadership. But how could union leaders have imagined that a small handful of militant unionists might be capable of replacing the financial and management expertise of international capitalist elite management teams while preserving the jobs of their rank-and-file constituents?

CIT suggests that the interest of preserving the jobs of their union members never entered the calculations of the convenors at any time. When given the opportunity to share in management responsibility at Cliffs Robe River, they showed no interest or inclination to become involved. What drove their breathtaking hubris appeared to be

nothing less than the pursuit of power for its own sake, the destruction of the capitalist enemy, and the glory of a working-class hero arriving at work in be-suited splendour to the adulation of the masses.

The Mine of the Future

In 2008, global mining giant Rio Tinto launched its ambitious 'Mine of the Future' programme. The company website explained how the programme is unfolding using:

> … next generation technologies – like automation – to run our operations more safely, efficiently and with lower production costs. We were one of the first in the industry to adopt automation, and today we operate the worlds [sic]first fully autonomous, long distance, heavy haul rail network – AutoHaul,™ the worlds [sic] largest robot. (Rio Tinto, 2021, business history)

Rio Tinto has a long history of operations in Australia, beginning in 1905 with the formation of the Zinc Corporation at Broken Hill. In 1949 this evolved into The Consolidated Zinc Corporation, which merged with Rio Tinto in 1962 to become Conzinc Rio Tinto Australia (CRA). (McKinnon, 2007). By 2000 CRA had reverted to the name Rio Tinto (Lee, 2015).

From its Australian beginnings as the Zinc Corporation, Rio Tinto, in common with all resource companies operating in Australia, had strong incentives to mechanise due to the import tariffs and wage protection of the 'Australian Settlement', discussed in Chapter 3. Under the provisions of the Australian Settlement, a 'living wage' for workers was underwritten by the Arbitration Court, while manufacturers' profits were maintained by tariffs imposed on imports of goods, machinery, and equipment. Resource industries were detrimentally affected by this policy because all inputs to the sector whether imported or locally made, were maintained at an artificially high price due to the tariff impositions, as were workers' wages. Unlike manufactories supplying the domestic market, resource industries could not pass on the resulting increased costs to the consumer as their markets were international and highly competitive. Consequently, large-scale Australian company mining today constitutes the vanguard of industry and business in the adoption of mechanisation and automation afforded by the emerging digital economy.

There has always existed a further incentive for resource companies to pursue the path of mechanisation and automation which is seldom discussed openly. That is the

disruption to the work processes, and the substantial loss of revenue attendant upon the actions of a militant unionised workforce (Stewart, 2016). Bradon Ellem has quoted Rio's President of Pilbara Operations as saying:

> … in effect, mining would be simpler without human beings. We can plan ahead and schedule with much greater certainty with an automated system, than you can with the inherent issues that come along with people being involved. (Ellem, 2017, p. 187)

BHP manager John Howell was able to solve that problem in 1892 by terminating and blacklisting the entire unionised workforce, and re-hiring contracted and non-unionised workers in their stead. Such an action is likely to be successful only in extreme circumstances or amid record unemployment, which was the case in the 1890s depression at Broken Hill. A longer-term solution was needed.

Unions have long been aware of such motivation by company management. They have a demonstrated history of instituting restrictive work measures, a practice that F. W. Taylor called 'systematic soldiering'. Such restrictive work practices served to counter the move by companies towards technology-labour substitution. From as early as the 1930s Mayo's researchers at the Hawthorne Works near Chicago found that there was "an unanticipated worker culture [that] was revealed through group norms and activities *such as the restriction of output …*" (Sonnenfeld, 1985, pp. 113-114; emphasis added).

After the workforce was replaced by contractors at Broken Hill in 1892, Manager Howell boasted that "we have extracted 22,000 tons more of ore, with just under 40 percent less men" (Kennedy, 1978, p. 71). Again, at Broken Hill, this time under the Collins House management, as the 1930s Great Depression eased the miner's union instituted job control measures designed to force increases in contract rates. In the Pilbara at Robe River in 1986 the operation was running at just 60% capacity because of 'go-slow' and other disruptive work practices by the unions.

Under such circumstances, it is understandable why mining companies were quick to adopt technological advances as soon as they appeared. In the big open-pit mines of the Pilbara, the increase by an order of magnitude in mining machinery also had the effect of decreasing the troublesome labour force by the same amount. Ten drivers potentially operating 35-tonne trucks could be replaced by one driver operating a 350-tonne truck. With similar reductions of labour in all areas of the operation, the

first effect of such a technological advance was to substantially increase the efficiency of each human operator.

The efficiencies achievable by economy of scale begin to plateau as machinery approaches the practical limits of design size (Corke et al., 1998). This necessitates that other approaches be sought to achieve continuing productivity increases. The application of computing methodologies to achieve overall equipment effectiveness (OEE) in scheduling machinery efficiency in the work cycle has been demonstrated to result in savings of 10s to 100s of millions of dollars (Ristovski et al., 2017). This is another instance of artificial intelligence (AI) increasing the efficiency of human operators. Rio Tinto, as part of its 'Mine of the Future' program has taken the efficiency of human operators a step further with the establishment of an operations centre to enable all their mining operations, ports, and rail transport systems in the Pilbara to be operated from a single location in Perth (Rio Tinto, 2021, innovation/automation).

The final application of the 'Mine of the Future' program, already well under way, is to replace human operators entirely with fully autonomous machinery. Rio Tinto currently operates more than 130 autonomous trucks which are monitored from the operations centres by a supervisory system and a central controller. The central controller is there purely to ensure that the trucks are operating efficiently. Rio's website claims that "in 2018, each truck was estimated to have operated on average 700 hours more than conventional haul trucks, with 15% lower costs – delivering clear productivity benefits" (Rio Tinto, 2021, innovation/automation).

The AutoHaul™ rail system network, the 'world's largest robot' includes 200 locomotives operating over 1,700 kilometres of Rio Tinto's track in the Pilbara. The drilling and blasting system has also been automated and is now monitored from the Perth operations centre. The few human operators required live and work in Perth, 1,600 kilometres away from the hot and dusty Pilbara. The once-thriving mining communities that were the centre of union social and political life in the Pilbara have been bypassed as autonomous machines now dominate the mining landscape. As Rio's President of Pilbara Operations said, 'mining would be simpler without human beings'.

Conclusion

This section revisits Research Questions 1 and 2, to summarize the findings of the Pilbara Meta-ethnography as relating to those questions. Research Question 3 will be addressed separately in Chapter 8.

Research Question 1: Socio-cultural & Economic Factors

RQ#1: What are the socio-cultural and economic factors behind the antipathy between capital and labour in mining workforces and associated communities in Australia?

It is worth re-iterating that during the construction phase in the Pilbara there was little evident tension between capital and labour. It has been described as a 'straight master-servant relationship' with no industrial relations problems. This bears out the belief expressed by the H. R. Nichols Society, that workers have a natural commitment to the employer, which was, however, capable of being subverted by a militant leadership (Ellem, 2017). Kelly (2002) also stressed the effectiveness of union leadership in framing issues in such a way as to maintain a sense of injustice among workers. Griffiths also underlined the importance of leadership, stating:

> As the power of the trade unions began to grow, so the workers became subject to two kinds of leadership and authority; the managers who directed their work, and the union officials who protected their interests. Inevitably the two came into conflict. (Griffiths, 1998, p. 143)

It was to the perceived deficiency in CRA's leadership culture that Roderick Carnegie addressed himself upon becoming CEO in 1972. He wrote of the necessity of sustaining an effective superior-subordinate relationship with employees, one that aroused their natural enthusiasm for work (McKinnon, 2007). It took Carnegie until 1981 to have his re-vamped management teams in place. Before that date, in the absence of an appropriate culture of management leadership, militant union leadership inevitably rose to fill the void, creating a counterculture among union members and in the townships that greatly multiplied the potential for the conflict that Hamersley experienced during the late 1970s to the mid-1980s. Both Cliffs Robe River and BHP also laboured under deficiencies in management culture, being influenced by a misguided attempt at industrial democracy, until it was no longer possible to deny that the experiment had been a failure.

The economic factors contributing to tensions between capital and labour in the Pilbara were, as at Broken Hill, the desire of both capital and labour to each derive

maximum economic benefit from the enterprise. Such is the condition of human nature that at times, both labour as well as management, found themselves in the grip of unbridled avarice in which 'the devil could take the hindmost'. Some of the more important socio-cultural and economic factors that contributed to the antipathy between capital and labour in the Pilbara mining 'communities' are summarised in Table (8).

Table 8. *Socio-cultural and economic factors contributing to the antipathy between capital and labour in the Pilbara*

Socio-cultural factors	Economic factors
Disparity between manager and worker housing	Fluctuations of metal market prices
Counterculture promoted by union convenors and shop stewards	Consultative management adopted by all companies until 1980s
Sub-cultural divisions in the workforce. Demarcation disputes	Global recessions
Introduction of FIFO breaks down community networks	Technology-labour substitution in a bid for economic efficiency
Collective identification fostered among workers by community life in the townships in the early years	Influence of arbitration court favouring unions
Isolation of communities and mine sites – Kerr-Siegal hypothesis	High wages won by miners challenged company profitability
	Refusal of unions to accept any responsibility for production efficiency

The meta-ethnography has shown how the Pilbara town communities were first operated as company towns. Initially very much in the gesellschaft pattern where the company controlled much of civic life, they quickly became union strongholds and centres of community association. CIT suggests that sub-cultures in the nature of the gemeinschaft pattern sprang up as people from different regions were thrust together in close proximity, forming themselves into neighbourhoods, sporting associations, and social clubs. In effect becoming *societies of communities,* with such an inherent resilience that they were able to resist the company's domination.

The response of companies to this after the mid-1980s was to introduce a fly-in, fly-out (FIFO) procedure for their workers. This not only destroyed the social fabric of the communities and the networks of association that had been built up, but it also led to the fragmentation of any remaining sense of connectedness by the companies' practice

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of alternating rosters and shift cycles. The result was to leave workers increasingly isolated during duty cycles on the massive mine sites. Figure (9) below, is a modification of Figure (2), illustrating the extent of the destruction of the fabric of society and the isolation of individuals through the severance of community links imposed by these practices.

Figure 9. *Representation of an egalitarian small-world social network severely compromised by FIFO.*
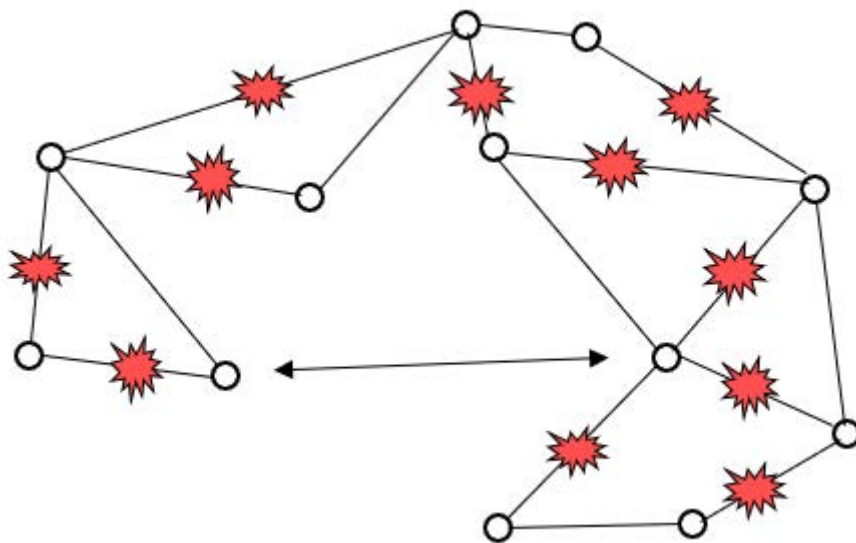
Research Question 2: Cycles

> RQ#2: What explanations can be found for the recurrent and cyclical nature of the antipathy between capital and labour?

The 1960s and early 1970s were characterised by high metal prices at both Broken Hill and the Pilbara. This period was also distinguished by rising union militancy across much of the industrialised world as the pressure of globalising forces began to bear on the waning Keynesian 'Golden Age' (Volscho, 2017). At Broken Hill, with its much longer operating history, CRA was further advanced with plans to counter this union militancy by a technology-labour substitution that saw 1,000 jobs shed from the line of lode by the introduction of mechanised long-hole stoping in the mid-1970s (Shields, 1997). Despite this, by the mid-1980s unions at both Broken Hill and the Pilbara had become synchronised in the just latest apogee of union resurgence against capitalist mine owners.

Mining the Future: Post-Market Society and the Capital-Labour Conflict

Over the long history of mining in Australia, power ascendancy has cycled between capital and labour on several occasions, and for periods of varying duration. From the perspective of the mining companies, however, two discernible cycles are of the utmost significance. Corresponding to the four Great Cycles discussed in Chapter 5, Great Cycle Three occurred at Broken Hill in 1892 when the viability of the BHP company was threatened by an international recession and an uncooperative union. Almost 100 years later, in near-simultaneous occurrences at Broken Hill and the Pilbara in 1986, Great Cycle Four reached a peak when the Australian mining companies concerned again facing a similar crisis. The respective companies moved on each of these occasions to destroy union power. Elizabeth Humphrys has also noted this 100-year period between cycles, commenting that "[t]he twentieth century was, ultimately, bookended by the formation and decline of organised labour in most advanced capitalist countries …" (Humphrys, 2019, p. 1).

It would be remarkable if it was indeed just a coincidence that in Australia, such a 100-year period coincides with the effective administration of the system of industrial arbitration, introduced by state governments from the late 19th century, and by the Federal Government from 1904 (Oxnam, 1956). The arbitration system mediated industrial disputes and wage agreements, until, with its power progressively diminished by legislative changes and workplace agreements, it was finally dissolved by the Rudd Labor Government in 2010 (Bray & Stewart, 2013; Dabscheck, 2008; Oxnam, 1956). Perhaps an Australian government of the 21st-century might again have occasion to attempt to break the inevitable cycles of conflict between capital and labour, however, that is a consideration for Research Question 3.

In the Pilbara, as previously discussed, workplace agreements were introduced by both the Federal Government and the Western Australian State Government in the 1990s. The subsequent decline in the importance of arbitration courts, and consequently the relevance of unions (Howard, 1977), saw workers begin to abandon the union leadership in large numbers to follow the strong leadership being provided by the Pilbara mining companies (Ellem, 2017). This movement away from allegiance to unions which has seen the capitalists rise to the ascendancy again, has since spread to encompass industries right across Australia (Bellace, 2018; Griffin & Svensen, 1996).

To this point, the discussion around Research Question 2 has resulted in little more than a description of the observed cycles of antipathy between capital and labour, with some observations of events that may have contributed to their existence. It has still yet to find an adequate explanation for the recurring nature of these cycles. For the cycles to have persisted for the last two centuries suggests the presence of some as yet unresolved fundamental motivating factor. In all truth, the driving force behind these cycles of antipathy has been evident in the many examples of capital-labour conflict examined so far in this thesis, but such is its nature and potential bearing upon the future course of class relations that a fuller exegesis will have to await the discussion of Research Question 3 in Chapter 8.

Research Question 3: The Future

RQ#3: What implications might the ongoing antipathy between capital and labour have for the future of industry development and employment in Australia in the 21st century and beyond?

Research Question 3, as indicated by its form, is directed towards the understanding of events that are yet to unfold, and consequently, is necessarily speculative. And yet, it is this author's belief that such speculation is sufficiently grounded in the historical subject of this thesis to sustain a credibility worthy of academic reflection. Accordingly, and to this end, Research Question 3 has been allocated an entire chapter, and will be addressed in the penultimate Chapter 8. In the immediately following Chapter 7, the narrative moves to the Eastern Australian coalfields, to address the latest development in the conflict between capital and labour; the attempted casualisation of the workforce.

Chapter 7.

'Brave New World': Employment Relations in the 21st Century

Introduction

By the close of the 20th century, where the narratives of Swain (1996), Ellem (2017), and McKinnon (2007) tail off, individual mineworkers in the residual workforce in the Pilbara may have briefly considered themselves in happy circumstances. The 'hard men' of the unions had been 'let go', and substantial pay rises had been awarded to the remainder to entice them into the company fold. For the CRA group of companies, on the surface it would have appeared that Carnegie's motivation for the company restructuring had been achieved. He had aimed to give workers the freedom to contribute their best to the company, stating explicitly that "CRA's competitiveness, internationally and domestically could only be assured by organising and managing in a way that encouraged and allowed each person in the Group to give of his or her best" (as cited in McKinnon, 2007, p. 7). Carnegie's view had been that providing a high degree of job security along with fair treatment would be met by a reciprocal consideration from the workforce (McKinnon, 2007).

Whether this was indicative of a certain naïveté on the part of an otherwise highly astute CEO was not to be put to the test. After Carnegie departed from CRA in 1986, McKinnon (2007, p. 7) recorded that "the push for staff employment was associated, at every workplace it was implemented, by mass lay-offs. This is suggestive that, rather than job security, much of the productivity growth achieved under 'staff' conditions was driven by job insecurity".

The stark reality behind such a move is, that as 'price takers' in an internationally competitive market the profitability of a mining company is dependent on close attention to the control of operating costs. The remuneration to the workforce being a substantial component of these costs, companies were certain to be on the alert for any opportunity to make economies in this sector. The rise to prominence of labour-hire agencies in the late 20th century seemed to offer them just such a solution.

'Temporary' Staff Employment: Labour-Hire in the Mining Industry

Agencies whose business model was based on the provision to employers of 'short-term' workers to fill temporary employment gaps have existed since at least the

1950s in Australia (Hepworth, 2020). From such modest beginnings, the scope of the labour-hire industry has grown rapidly since the 1990s. Along the way, it has morphed from a short-term, supplementary labour role, to one which appears to be increasingly offering a substitute for permanent workers.

Labour-hire agencies operating in Australia today range from large multi-national companies such as Downer Edi Ltd., and CIMIC Group Ltd., each with thousands of staff, to medium-sized operators with just a handful of employees (Hepworth, 2020). The mining industry, as a price taker on unpredictable international markets, was not slow to realise that the hire of short-term workers from these agencies could add valuable flexibility to their core workforce.

However, despite the present ubiquity of labour-hire agencies, it seems there are difficulties in accessing reliable data on the current extent of the labour-hire industry. The Australian Bureau of Statistics (ABS) valued the employment industry, of which labour-hire constitutes a major part, at $10.2 billion for 2001-2002 (House of Representatives Committees, n.d.). Notwithstanding such value figures, evidence presented to that Committee indicated that there was a lack of reliable statistical evidence on the number of labour-hire workers in Australia. In giving evidence to the Committee the AMWU stated that:

> There are difficulties analysing the growth of labour hire and contracting based on existing data. To understand the issues surrounding labour hire and contracting, and to develop an appropriate policy response, it is essential that we have an accurate estimation of the size of the labour hire industry and contracting. (House of Representatives Committees, n.d.)

To determine the reasons for such apparent opacity, this chapter undertakes an analysis of evidence on the present extent of insecure work, and the practice of labour-hire in the mining industry in Australia.

Background

Much of the source material for this chapter was derived from the coal mining industry of the two Eastern States, New South Wales and Queensland. In contrast to the largely successful de-unionisation of the Pilbara iron ore mining industry, the big mining companies Rio Tinto and BHP have had less success against the coal mining unions in their attempts to lower unit costs of production (McKinnon, 2007). In its submission to a 1998 inquiry into the black coal industry, Rio Tinto indicated that its

coal operations had performed poorly compared to its iron ore and bauxite operations. This they believed to be due to previous unsatisfactory management of employee relations, and the continuation of outdated and costly work practices (McKinnon, 2007).

There is no doubt that the cost of labour, whether inefficient or not, presents a large and visible target for a company looking to boost revenue in the short term. Other industry commentators, however, have identified overproduction rather than restrictive work practices as the source of the crisis facing the coal export industry (Bowden, 2000; Draper & Lee, 1988). Oversupply to markets, which was never a problem under earlier, labour-intensive mining practice, has, with the introduction of modern methods of extraction, resulted in the industry experiencing a crisis.

Faced with falling coal prices due to oversupply from 1987, the coal owners decided that the way to restore profitability was to increase production even further and eliminate any restrictions that might hinder the maximisation of productivity and output. Against union opposition, the coal owner's successful bid to lift award restrictions saw the introduction of continuous rosters, the relaxation of demarcation barriers, and the greater use of contractors. This resulted in output per employee increasing by 42% between 1990 and 1996 (Bowden, 2000). However, the further this grand plan progressed, the more it revealed the flaw in the coal owners' assumptions of maximised production vis-à-vis profitability. With increased overtime costs and shift allowances negating any financial benefit to mine owners, the increased production simply exacerbated the market oversupply, forcing prices even lower.

As had happened in the Pilbara, the passage of the *Workplace Relations Act* in 1996 in terms favourable to employers had provided the coal owners with a further opportunity to reform workplace relations by introducing a more punitive 'cost of production' focus (Bowden, 2000). This included reduced overtime payments, the removal of production bonuses, an intensified work regime stimulated by mass layoffs, and the removal of union restrictions on the use of contractors. However, rather than resolving problems of profitability, this 'cost of production' focus only managed to deepen the crisis. As Bradley Bowden explained:

> While under the old 'productionist' focus, buyers could point to an oversupply in order to drive down prices, higher labour costs per tonne continued to put a floor under prices below which producers could not trade and survive. With a 'cost of production' focus even this floor was driven down. (Bowden, 2000, p. 378)

Despite this and other evidence to the contrary, Australian producers have continued to focus on lowering labour costs rather than limiting production (Bowden, 2000).

The coal mining union CFMEU, for its part, has been fighting a determined rear-guard action against the threatened breakdown of wages and conditions implied by the accelerating adoption of labour-hire by the big miners. With a high-profile court case, attempted follow-up class actions, retro-active government legislation, and numerous enquiries and senate reports, much documentary evidence on the proliferation and influence of labour-hire in the coal mining industry has been generated such as is not readily available for the iron ore mining industry in the Pilbara. Despite this dearth of documentary evidence for the iron ore industry, the 2017 statement by Rio Tinto that "they will only use labour hire in their iron ore operations" (Hepworth, 2020, p. 23), is a sufficient indication that the increasing use of labour-hire is a phenomenon that is common to all sectors of the Australian mining industry. The next section explores this phenomenon further through documentary analysis.

Mining Industry Documentary Evidence

The first part of this section analyses two commissioned, and two independent reports. The second part of the section analyses grey literature in the form of industry journals, publications, and union submissions. All documents were sourced through Google Scholar using the search terms 'labour-hire Australian mining' and were selected based on an abstract reading indicating applicability and an overall balance of perspective.

Commissioned and Independent Reports

The following is an analysis of four reports on labour-hire and casual employment in Australia. The reports comprised two independent reports, the ACCR report (Hepworth, 2020), and the Australia Institute report (Carney & Stanford, 2018), and two commissioned reports. The Deloitte Access Economics report (2019) was commissioned by the employer association the Minerals Council of Australia, and the McKell Institute report (Whelan, 2020), by the mining union, CFMEU, Mining and Energy Division. With just the four reports to encode, themes relating to the use of labour-hire were manually derived after careful reading of each report. Themes identified and their occurrence in each report are indicated in Table (9).

Table 9. *Themes identified within the reports*

Reports	Theme: Desire for cheap workers	Theme: Work shortage drives casualisation	Theme: Casual safety concern	Theme: Casuals increase	Theme: Hidden data	Theme: Less commitment from casuals	Theme: Wage parity impacts profit & jobs
Independent report: ACCR (2020)	Yes		Yes	Yes	Yes	Yes	
Independent report: Australia Institute (2018)	Yes	Yes		Yes	Yes		
Employer commissioned report: Deloitte Access Economics (2019)	No			No	Partly agree	Yes	Yes
Union commissioned report: McKell Institute (2020)	Yes	Yes		Yes		Yes	

Summary and Discussion of Commissioned and Independent Reports

The two independent reports agree that insecure work has been on the increase in Australia, with the ACCR report identifying the mining industry as having some of the highest labour-hire rates in Australia. The Australia Institute report states that less than half of employed Australians now have permanent work with leave entitlements, which appears to be the main factor delineating 'casual' work. The Australia Institute identified the reduction in secure employment as due to there being more workers than jobs available, allowing employers to cut wages and conditions. The ACCR report also expressed concern that data on casual and labour-hire work is not readily available.

Of the commissioned reports, the McKell Institute report, commissioned by the CFMEU, concurs with the two independent reports in supporting that there has been a substantial increase in the use of labour-hire by mining companies in the last ten years. The McKell report further highlights that labour-hire workers are paid at least a third

less for doing the same work. The Deloitte Access Economics report, commissioned by the employer representative body tells a markedly different story. The commissioning of the report appears to have been prompted by the threat of a future Labor Government enacting wage parity legislation that would ensure 'equal pay for equal work' for labour-hire casuals. Although the Deloitte report rightly emphasises the value of the flexibility that labour-hire brings to the industry, the general thrust of the report is that labour-hire is not a problem because very few labour-hire workers are employed in mining. And further, those few are paid substantially more than labour-hire workers in other industries.

Deloitte has claimed that their survey found that mining labour-hire comprised just 11% of workers, being lower than in most other industries. In support, they cite similar figures from the ABS. Given the low numbers quoted for labour-hire workers in mining by Deloitte it is surprising that one of their key findings on the impact on the economy of the proposed change to the labour laws is:

> … that both output and employment are likely to decline as a result of the scenario with the estimated decline in employment averaging 6,400 FTEs [Full Time Employees] between 2019 and 2031 and the estimated decline in GDP equalling $15.3 billion in NPV terms over this period. (Deloitte Access Economics, 2019, p. 44)

The loss of 6,400 permanent jobs and a decline of $15.3 billion in the GDP seems an astonishing result to flow from a pay rise being granted to just 11% of the mining workforce. And why would there be a subsequent decline of permanent jobs rather than the casual labour-hire jobs? Unless, of course, the reduction of permanent jobs is the unstated intention of employers. Could it also be that the actual numbers for labour-hire employment in mining are much higher than claimed in this report? This question of disputed labour-hire numbers is addressed at the conclusion of the next section on grey literature analysis.

Industry Journals, News Publications, and Union Postings.

A document analysis was also conducted on a range of industry grey literature publications to triangulate the data in the above commissioned and independent reports. The eleven publications were recovered in the same Google Scholar search as the reports, using the search words 'labour-hire Australian mining'. The publications were uploaded into NVivo 12 to facilitate the identification of themes on the prevalence and influence of labour-hire on the mining industry. Themes identified appear in Table (10).

Table 10. *Themes identified in grey literature publications*

Publications	Theme:1 Class action	Theme:2 Desire for cheap workers?	Theme:3 Work shortage drives casualisation	Theme:4 Casual safety concern	Theme:5 Casuals increase	Theme:6 Hidden data
CFMEU. (2019, Aug 21) *Union seeks millions*	Yes		Yes		Yes	
CFMEU. (2019, May 6) *Morrison Govt backs mining giants*	Yes				Yes	
CFMEU. (2021, Aug 24) *Class action dropped*	Yes	Yes				
CFMEU. (2019, Sep 5) *Ad campaign exposes new BHP attack*		Yes				
Rae, M. (2021, July 13) *Miner's pay rise hit by rise of gig economy*		Yes		Yes	Yes	
CFMEU. (2019, Jun 19) *NSW coal jobs highest in five years*		Yes	Yes		Yes	
Loftus et al., 2021, Jul 15) *Senate inquiry hears two sides of claims*		Yes		Yes		
Elaine, C. (2018, Oct 2) *Are Australian labour-hire companies exploiting?*	Yes	Yes	Yes			
CFMEU (2021, Jun 24) *Inquiry reveals*				Yes		Yes

'unacceptable' risk						
CFMEU (n.d.) *Why is it hard to get true data on casuals?*		Yes			Yes	Yes
Szabo, R. (2021, Oct 12) *FIFO labour-hire workers come forward*		Yes				

Theme # 1: Class Action

This theme arose from the Federal Court action, WorkPac vs Skeene, which found that casual labour-hire worker George Skeene was entitled to leave entitlements having worked full time for almost four years. The CFMEU subsequently filed a class action on behalf of all miners 'wrongfully' employed as casuals only to have the action defeated when the Morrison Government, making claims of 'double dipping', retrospectively amended the law. This theme appears in four of the above publications but has no parallel in the industry reports.

Theme # 2: Desire for Cheap Workers, or Flexibility?

Contrary to the protestations of employers, Table (10) indicates that the publications were almost unanimous in their belief that the primary intent of the mining companies was to reduce labour costs rather than to achieve flexibility in hiring. The in-house labour-hire company, 'Operations Services' set up by BHP, offers permanent jobs, but with wage reductions of 40%, and with poorer conditions. Such a course of action only undermines employer claims that flexibility of employment is valued above any likely reduction of labour costs. The Queensland Mining and Energy Bulletin (2021, Oct 12) detailed complaints from Operations Services labour-hire workers, finding that 92% were dissatisfied with their wages and conditions.

The CFMEU claimed that despite coal industry jobs being at their highest level for five years the big miners are not hiring. Their preference is to use cheaper labour-hire workers to replace permanent workers. In reporting on a senate inquiry into labour-hire, Loftus et al., (2021) related that the inquiry was informed that some casual workers have been on labour-hire for five years or more. Such extended employment periods can

only further undermine the claim by companies of the value to them of the flexibility of casual employment. This theme was identified in eight of the eleven publications.

Theme # 3: Work Shortage

Mining companies are not hiring permanent workers. As the only jobs available are lower-paid labour-hire jobs, workers will take these jobs in preference to unemployment, hoping that they will lead to permanent jobs. In the industry, this is called 'getting your shirt'. During market downturns, unemployment rises, making work harder to find. This theme was identified in three of the publications.

Theme # 4: Safety

The Queensland Coal Mining Board of Inquiry into the 2020 methane explosion at Grosvenor Mine, in which five workers were injured addressed the safety concerns around the proliferation of labour-hire. The Board of Inquiry explored the issue that workers in temporary and insecure work are reluctant to raise safety issues, fearing that they may lose their job. This has been a recurring refrain for many years in the mining industry, being raised as early as the Queensland Royal Commission into miners' phthisis in 1911 (Bowden & Penrose, 2006). This theme appears in three of the above industry publications.

Theme # 5: Casuals Increase

Statistics showing a labour-hire increase in mining have been denied by employer organisations. However, there is substantial evidence, in the industry reports above, in the published articles of this section, and in the COAL LSL data (see below), that more than half of the workers at some mine sites are labour-hire casuals. The COAL LSL data was supplied to the Federal Government in 2020, but the Government chose to use instead the misrepresentations of the business lobby (Mining & Energy Fact Sheet, n.d.). Further evidence confirming such an increase in casuals came from the recent Queensland inquiry into the underground explosion at the Grosvenor Mine in which five workers were injured. The inquiry found that 76% of the total site workforce at the time were contractors and labour-hire workers (Martin & Clough, 2021). This theme was identified in five of the publications.

Theme # 6: Hidden Data

As noted in the independent reports from the ACCR and the Australia Institute, company disclosure on labour-hire numbers was found to be very limited. Even statistics quoted from the ABS seem to be at variance with those quoted from union/employee sources. In this grey literature section, it is only from CFMEU sources that accurate data on the coal mining industry appears to be available. The next section on disputed labour-hire numbers seeks to clarify this discrepancy in recorded statistics.

Disputed Labour-Hire Numbers

One of the concerns expressed in the ACCR report was that company disclosure on labour-hire numbers was very limited. The CFMEU has also noted the difficulty in getting true data on casuals employed in mining. Their published Fact Sheet claims that:

> [m]ining communities keep being told there aren't many casuals in mining. Employers have been claiming absurdly low percentages to claim that casualisation is not a problem in mining. However, new data **kept secret** by the Federal Government shows the growth of casual work in mining and illustrates why employers embrace the model – they are cheaper. (Mining & Energy Union Fact Sheet, n.d., p. 1)

The Fact Sheet goes on to reveal an apparently little-known fact. The big labour-hire companies do not classify themselves as being part of the mining industry. Under ABS classifications, labour-hire agencies come under the 'Administrative and Services Support' industry. "Their employees are not mineworkers and are not counted in the industry" (Mining & Energy Union Fact Sheet, n.d., pp. 1-2).

Fortunately, there are coal industry data that does give a clearer picture (COAL LSL, n.d.). This is a union-won, portable long service leave scheme that records accurate data on the employment category of each employee, and their rates of pay, that determines their long service leave levy. The CFMEU stated that:

> This data was supplied to the Federal Government's IR working groups in 2020. However, the Government has chosen not to release it, and instead back the misrepresentations of the business lobby. The document was only made public because of a Budget Estimates question on notice made by Labor Senator Louise Pratt. (Mining & Energy Union Fact Sheet, n.d., p. 3)

The data show unequivocally that over 30% of the industry workforce are casuals, and that their pay rate is around 40% less than permanent employees. Because the data also includes management, professional, and administration staff, the actual figures for the

production and maintenance workforce are likely to be closer to 50% (Mining & Energy Union Fact Sheet, n.d.).

It would appear from the above analysis that the prevalence and impact of labour-hire has become a highly contentious issue for both companies and employees. In the event of a Labor victory at the next Federal election the situation is only likely to escalate, as Labor implements its stated wage parity policy position of 'Same job, Same pay'. To gauge the feeling in the workforce over this looming confrontation a series of semi-structured interviews were conducted using the online platform Zoom.

Semi-structured Interviews

The document analysis revealed a considerable divergence of views between government/employer, and union/employee groups, on the prevalence and impact of labour-hire in the mining industry. To further triangulate in an effort to clarify the findings it was decided to conduct a series of interviews with persons actually working or having worked in the mining industry. The Mining and Energy Division of the CFMEU kindly offered to publicise a request for interviewees through their Facebook site, which resulted in approximately eight initial expressions of interest from people employed in the coal mining industry, with a snowball effect contributing two further responses.

Unfortunately, shortly after this encouraging beginning the coal mining districts in both Queensland and New South Wales were severely impacted by repeated flooding events which caused four prospective interviewees to drop out. The interviews subsequently proceeded with the remaining six participants, whose names have been coded to preserve anonymity. Of these remaining participants, three were underground workers, two worked in open pit operations, and one, 'AC', was a retired supervisor who had worked for Rio Tinto. This section was rounded off by discussion and comment of a timely podcast of a CFMEU interview of Shadow Industrial Relations Minister, Tony Burke, on the question of wage parity for labour-hire casuals titled 'Same Job, Same Pay'.

Labour-Hire Prevalence

Given that the ABS, the Morrison Federal Government, and the Deloitte Access Economics Report (2019) on behalf of the Minerals Council of Australia, have maintained that there are only low numbers of labour-hire casuals employed in the

industry, this seemed a good place to start. All six interview participants were unanimous in their view that labour-hire casuals have considerably increased during their employment in the industry. 'AA', a permanent employee, and a longwall fitter of 10 years' experience underground said that when he started work for BMA (BHP-Mitsubishi Alliance), he was among the last intake of permanents. He reflected:

"So, I started at [redacted] *in 2012, in that group of employees, on that intake, there was a fair few of us, and we were the last major intake at* [redacted]. *In 2015 there were two people put on, so it's been* [over] *five years without a permanent being put on. In the event that a permanent employee left they were just replaced with some contract group on a labour-hire sort of provision. Their money was far less than ours, their conditions were reliant on whatever was in their employment contract, so, yeah, I've seen dozens and dozens of labour-hire people come through ... I do believe that the middle managers, or at a site level, if they could employ* [permanent] *people they would, but when you're looking at a company like BHP, with thousands of people around the world, they're governed by their HR in Brisbane".*

'AD', another underground worker, who has been a labour-hire casual for 17 years, also agreed that there has been a definite increase in the use of casuals in mining. When he first started, casuals only comprised about 25% of the workforce. Now it has increased to 75%. I asked 'AD' if the current pay that he was receiving was an adequate wage. His reply illustrated the negative shift in pay for labour-hire casuals: *"It's not as good as it used to be. When I first started, I could earn twice what I could get as a construction worker, now the pay rates for underground are not much different to a surface construction worker."*

To better understand the apparent increase in casualisation, I asked respondents: "is your feeling that in the time you have worked in mining that casualisation is on the increase? Here I draw on the response of 'AE', who is a long-time coal miner, and had previously worked as a permanent in an open pit mine. He was made redundant in a downturn and is now back as a machinery operator for a labour-hire company at a mine site. 'AE's response to my question evidenced a very strong shift to casualisation. He responded: *"Yes, yep, 100%."* I further sought to determine whether the increase in casualisation was a deliberate ploy by the companies to cut wages"? The response from 'AE' affirmed that he believed that company activities were seeking to remove

permanent staff: *"Yes, yep, 100%. Even when I was permanent at* [redacted], *I think it was at the start of a downturn – at* [redacted] *the permanents are on a very good wage, they have a very good enterprise agreement. The company hated that. They're phasing out the permanents at* [redacted], *they haven't hired any permanent production operators since 2012 or 2013. The company said 'we have to lay off 100 permanents and 160 contractors'. They got rid of 100 permanents, and not one single contractor got laid off, and they put about another 100 contractors on, isn't that funny"?*

By the early 1990s, Rio Tinto had moved all of their waged workforce onto 'staff' contracts in a bid to resolve IR conflicts. I put the following question to 'AC', now retired, who was a supervisor at a Rio Tinto mine site during the period: "In 2017 Rio said that they would only use labour-hire in their iron ore operations. How did the transition happen between the 'staff' arrangements in 1991, and the move to labour-hire"? 'AC' presented the following reply: *"That's an easy one. By 1991, all wage workers in iron ore, bauxite and smelters were moved to staff. That was 30 years ago, and in those days you had company towns, all through the coal, all through WA, now they're moving away from owning towns"* His response lent insight into the erosion of mining communities and the challenges for mining companies to sustain such communities, especially financially, as exemplified by 'AC's further comments: *"And the next thing after that is, well, we've got to pay an obscene amount of money to get people to come over here, then we pay for them to live in that town, for nothing effectively. We pay their electricity and everything, so why don't we just fly them in and out of Perth? And that's what's happening. It's just a straight cost thing".* 'AC's further comments illustrated the shift in company thinking as they began to focus on their core business: *"The coal towns, Moranbah and those towns, they've been decimated, the townships. It's just another move; as companies evolve, big companies over time, they really get into the mindset of what's core business and what's not, and they decided that core business is not owning a town. And that's also, that society's moved that way.* The emergence of a preference for contracts was evident in 'AC's response: *"If you or me got a job today we'd be on a contract. We'd have a one-year contract maybe ... You're on a fixed contract for a year or two years, or three years. This is how we are going. Before we were just paid for a job of work, and we were there for however long we decided to stay."* The responses here supported the increasing prevalence of labour-hire workers.

Cheap Workers

In the previous document analysis of the commissioned and independent reports into labour-hire in the mining industry, three out of the four reports concluded that the attraction of labour-hire workers to the industry was that they were cheaper. Only the Deloitte Access Economics report, commissioned by the employer group, Minerals Council of Australia, rated lower wages as substantially less important than the flexibility that labour-hire afforded.

In order to pursue this idea of 'cheaper workers' I put the following question to 'AB', a BHP permanent machine operator in an open pit mine for 19 years: "You said earlier that you felt the mines wanted to go to 100% labour-hire. Listening to you, and your experience, it seems to me that you'd be a very valuable employee to a mining company, and the labour-hire people need somebody to lead them around by the hand. Why would the mining companies want to go to 100% labour-hire"? His response showed that mining companies are driven by head office policy rather than the practical considerations of mining: *"Well, unfortunately they're not driven by the site. They're driven by corporate bean counters. If you went to the mine managers and asked them, I think that most of them would like a permanent workforce. But it is completely corporate driven by money, and of course, money has no friends."*

'AB' added a further surprising observation to my next question: "It must be difficult working in a situation where people on labour-hire are being paid quite a bit less." He replied: *"Well, it depends on what tickets you have. Some people on labour-hire can actually get more money than we do* [permanents]. *If you start talking to* [indistinct] *and dragline operators, they're getting pretty good coin. A good truck driver is worth his weight in gold, but because it's so corporatized that's not recognised."* From this comment the pay rate offered on certain sites is more a reflection of a skills shortage in some areas than whether or not you are a labour-hire worker.

On the question of flexibility, 'AD' had the following to offer: *"When coal prices go down the companies go to the wages bill. The first thing they do is to cut overtime, then they cut the numbers. That's the only flexibility they want. In my pit, 75% will be casuals."* As unfortunate as this may seem to the retrenched workers, and in

fairness to the companies, this statement does bear out the importance of flexibility of hiring labour to the viability of the industry in the face of inevitable market fluctuations.

'AE', who had previously been permanent but was now a labour-hire contractor had the following to say on pay rates: *"... but it is demoralising working as a contractor knowing that you are being paid substantially less. You can be employed as a permanent by the labour-hire company, but then you are paid even less ... you then have sick leave, but if you take leave your chances of getting a permanent position* [with the mine] *are less. It is pretty demoralising. It's the only industry I've ever worked in where a casual gets paid less than a permanent."*

The Deloitte Access Economics report made the claim that labour-hire workers in the mining industry, although earning less than permanents, were paid substantially more than labour-hire workers in other industries. To gauge the validity of this claim I put the following to 'AE': "As a contractor you'd be getting around 30% to 40% less than a permanent. Is that still a reasonably substantial living on that amount"? *"It is. I often find myself on night shift, having a look to see what sort of job I could do for a life change, but I can't find another job that pays what I'm currently getting as a contractor, because I don't have a trade or a degree, but I'm still on about 100K a year as a contractor, which is a decent wage. Permanents are getting about 150 to 160K."* The case of 'AD', referred to in Race to the Bottom*,* immediately below*,* would seem to indicate that there is substantial variation in pay rates across the industry.

Race to the Bottom

A factor that seems to have been largely overlooked amid the concern that cheap labour-hire rates are exerting a downward pressure on permanent rates is the fact that the labour-hire rate itself has been under downward pressure. 'AD', a labour-hire contractor of 17 years in underground coal, when asked if the pay rate was adequate, responded with the following: *"It is not as good as it used to be. When I first started, I could earn twice what I could get as a construction labourer. Now the pay rates for underground are not much different to a surface construction worker."*

'AF' related from his experience that the mining companies play the labour-hire agencies against each other in vying for the lowest rates. 'AD' also recounted: *"The whole thing with contract companies is that it is an excellent way* [for mining companies] *to abuse their power, and claim it is market forces at work, by using*

contract companies against each other as a downward pressure on rates." He said that he had known of a situation where a couple of workers were bankrolled by a mining company to start their own contracting company to bid against the other labour-hire companies and force prices down. Such responses highlighted the seeming 'race to the bottom'.

Safety Concern over Labour-Hire Workers

The previous industry reports, and the journal and publications analysis registered some concern that casual labour-hire workers may present a safety risk through inadequate training. The interviewees revealed quite a range of experiences across different mine sites. 'AF' commented that *"safety training had much improved by 2010. It was far less dangerous than in the '80s and '90s, when there was no guarantee of going home."*

'AE' said [safety training] *"is fairly thorough. Most aspects are covered well, but you don't progress from there. You can be on the same truck for five years."* He continued *"You often hear that you can't speak up about safety concerns. You can speak up, but it is more a case of how often you speak up – pissing off your supervisors and making headaches for them. If I get into a truck on a hot day and the air conditioning isn't working, as a contractor I'm not going to say anything about it, I'll just hope to get a better truck later on. If you start speaking up and standing bits of gear down that have defects, you will be quietly, um, you know, pushed out the gate."* In a similar fashion, 'AD' also recounted *"You'll always find that there's a reluctance to speak out in safety issues. Some guys are rushed through the process, and they may operate machines earlier than ideal. There's always a disconnect between what they preach and what happens in practice."*

'AB' had a different experience. *"They most definitely want everyone to be labour hire, but from a safety aspect it's extremely dangerous. But, as you know, even at the best of times people don't stand up for themselves. People are not doing their due diligence, even though we have a work procedure. There's too much emphasis on paper training, not actual training. Because every mine is their own RTO, which is a joke, and they don't have to give you a certificate, they only have to educate you to the certificate. They need more basic experience than the paperwork. The paperwork is just designed to cover legalities, it's not to ensure that someone has those particular set of skills.*

Some of these training packages are written up by people in an office that have no idea of the safety applications of the procedure that they're writing the training packages for."

'AB' went on to outline a problem that he believed would have serious safety implications in the future, not just for the mine, but for the nearby towns. *"The silicosis problem in these mines is going through the roof. The reason being that they don't recognise that a good water cart driver is a specialist skill. Through casualisation it has allowed standards to drop. They want everyone to be able to drive a water truck. The dust plumes I see now are horrendous. When everyone was permanent, if there was too much dust, we'd call up for a water truck. If one hadn't arrived shortly then we'd stop work until one turned up. Now, because of all the casualisation, there are not enough water trucks to control the dust, and it's a serious health issue. The union would have figures on 'black lung', and I reckon you could correlate that with casualisation. Given the proximity of these towns to some of the mines I'm concerned that young children are going to be affected. You park your car in town and in three days the level of dust over the car is unreal. You would not have seen that 16 years ago."* These responses show that there may be considerable variation in the standard of safety practices and training across the industry.

Restrictive Union Practices

One of the frequent company complaints about workers is that unions have often insisted on maintaining outdated and 'unfair' practices that are detrimental to production. Progressive government legislation since the 1990s has attempted to assist companies to restrict the union's ability to hamper operations. 'AA', an elected union representative and a coal worker with 10 years' experience showed an awareness of this when he admitted: *"I lay some of the* [blame for] *union restrictions existing today on unfair union practices in the past, like going out on strike over tea and coffee, which has put us in the position where we are now. We're on a pretty good wicket in the mining industry, but that's only through the efforts and hard work of our forefathers. A lot of people don't realise that now – how things are slowly and surely being eroded."* Of his experience of disruptive union practices 'AF' recounted *"If we wanted to make a point, we'd pull apart a piece of machinery before lunch, and then we'd go on strike. That sort of thing should never have happened."*

Retired Rio Tinto supervisor, 'AC' remembered: *"In the late '80s, I was a member of a four-man team working on trying to simplify the awards. There were 212 classifications on site, and we needed to get them down to 12. With the seven unions on site, and reps. from State and Federal, there were 32 in total, and negotiations got nowhere. It took two years to get award numbers down to 16. This was a national move by Rio at the time. Multiple unions, and that was one of the problems with the big mining sites. This was the argument, so get rid of all that. There's just one group of people, and they're called salaried staff. We'll pay them really good; we will look after them, and if some of our managers are dickheads, we'll move them off site. We want really top-class people to run the mine site. If you're not up there, then we'll move you on. How do we produce more ore with less people and lower cost? So, they started automating everything over there."* 'AC's response showed that the companies eventually lost patience with intractable union practices, and that when automation technology allowed them to largely avoid a troublesome workforce, they were quick to do so.

Pressure to Retrench Permanents

If it is indeed a long-term plan by the mining industry to replace all their permanent workers with casuals at the lower rate of pay, I wondered if any of the workers had seen evidence of such a move. 'AE' replied *"Oh God yes. There's hundreds of ways to skin a cat. They will make your life a living hell in any way they can, whether it's putting you in bits of gear that they know are shit, or they'll deny your annual leave. They'll put you on a management plan if you've had a couple of sick days. They'll give you early crib all the time. They'll do whatever they can if they're trying to get rid of you. There's lots of ways they can mess with you."*

I asked 'AB', as a permanent, whether he had experienced any pressure to resign. He replied: *"Not really, because I know that when they do things to upset you that's probably their intention. Like, in our camp, we have permanent rooms, but then they've done everything possible to try to get us to make them 'hot-seat' rooms. I've said to them they should do a study into suicide rate in transient rooms versus permanent rooms, but no-one wants to do that. My room is a sort of a sanctuary, you know what I mean? If I'd been in a transient room, I don't know how I'd feel. If I said that I would not feel suicidal I'd be lying."* These responses suggested that the

companies increase in the use of labour-hire may well be part of a longer-term plan to replace their permanent workers with casuals.

Wage Parity Impact

The Federal Labor opposition has flagged that if elected they will introduce same-job, same-pay legislation for casual workers. I asked 'AD' how he thought mining companies would react if a future government legislated to introduce equal pay for labour-hire workers. *"Oh, they'll fight tooth and nail against that. I can't see contractors' wages being raise to parity. They'll fight it. It'll be won and lost in the media battle. I know they're ruthless, and they've got Murdoch in their back pocket."* To the same question, 'AE' responded: *"It will be interesting, it needs to happen, but I don't know what the coal owners are going to do. Whether they are going to shut the places down, and then they wait long enough and open back up. They'll have to negotiate a new enterprise agreement; it'll probably be lower to reflect that they'll have to pay the contractors what the permanents are getting."*

On reflection, I thought 'AA's response to this question may have been the most revealing of the mining companies' possible actions in the face of the threatened introduction of wage parity legislation: *"Ah, the companies would have to give redundancy to permanents. They might put the mines under care and maintenance for a time.* He continued in a reflective tone: *"My payslip says BHP, my shirt says BMA, my actual employer is* [redacted] *Mine Services, so in a technical sense, I'm a contractor at my own mine. They could actually terminate us, terminate the agreement that* [redacted] *holds with BMA, so, yeah, that's actually a little bit concerning now that I think of it like that."*

One of the more notable things to come out of the interviews is that there appears to be little common experience across the industry. Neither in the meta-ethnographies of Chapters 5 and 6, nor in the document analyses of this chapter was it evident that pay rates, safety practices, and the extent of labour-hire usage varied considerably from mine site to mine site. This may only be a temporary situation facilitated by favourable markets as it is certain that pressure to reduce costs will begin to bear if a market downturn occurs. In that event, it is only the less scrupulous employers, and the ones with deepest pockets, that will survive, just as in the Northern handloom weaving industry of 19th-century England,

Same Job, Same Pay

The following is a brief insight into a podcast interview of the Shadow Industrial Relations Minister, the Hon. Tony Burke, by the CFMEU, Mining and Energy Division, on the proposed Labor Government's policy of 'Same Job, Same Pay'. The Shadow Minister revealed that since he became aware of the extent of the use of labour-hire to undercut wages he has realised that it is not just a problem confined to mining, but it is happening everywhere. Burke (2022) noted: *"We have gone a long way from the old concept that labour-hire is there when you need a sudden surge workforce, you bring people in quickly for labour-hire, they're very short-term jobs, and then they move on. We've now systematically seen some employers, not all, but a lot of employers in a lot of industries now say, well, they don't like the conditions of the enterprise agreement that was negotiated, so they can bring people in closer to the award at a lower rate of pay and do the exact same job through labour-hire."* (Burke, 2022).

When asked what the Labor Government policy would look like, the Shadow Minister stated: *"their terms and conditions* [of labour-hire workers] *can't be worse than the terms and conditions that are governed by the enterprise agreement that is there for people who are employed directly. That's the principle."* He went on to say that it might mean that the companies would employ more people directly, although they might still use labour-hire, but the labour-hire workers would be on the same pay and conditions as though they were under the enterprise agreement. *"There is a role for labour-hire sometimes, but its role should never be to undercut conditions, never."*

Asked if the mining companies, with their enormous resources and legal teams might just find a way around any legislation that might be brought in, the Shadow Minister replied *"Of course they'll try that, of course they will … but, be in no doubt, if new rorts appear then our objective will be … we'll legislate again. The big difference here is Labor believes that this practice is wrong, and we want to legislate to get rid of it. The Liberals and Nationals believe that this is a made-up issue so there's no problem to fix.*

Asked if more workers would be directly employed as a result of their legislation the Shadow Minister replied *"one of the outcomes will be that more people end up being directly employed for the simple reason that one of the incentives, one of the reasons that some companies use labour-hire, which is trying to cut wages, won't be*

available to them anymore ... I think we will end up with more people directly employed, but that would simply be, sort of a consequence of the main game, the main game which is to make sure that people who are currently being underpaid, on worse conditions and less job security, get what they should be entitled to at that workplace." Given that the increasing use of labour-hire in industry can be construed as the companies' response to the Hawke Labor Government's 1983 call for a 'more flexible' workforce of the future, Shadow Minister Bourke's stated ambitions for wage parity with permanent workers would seem to have the considerable weight of history stacked against its achievement.

Discussion and Conclusion to Chapter 7

While the coal unions had suffered a massive loss of membership due to mechanisation in the 1930s and 1950s (Bowden, 2000), inroads into wages and conditions were largely prevented by the powerful Coal Industry Tribunal. The industrial relations system overseen by the Tribunal had provided the unions with a closed shop, thus ensuring superior wages and conditions for workers. A pronounced recession in the Japanese steel industry in 1986-87, caused coal owners to apply pressure on the Federal Government to abolish the Coal Industry Tribunal, which the Keating Government acceded to in mid-1995 (Bowden, 2000). The immediate result of this campaign to disempower the coal unions was that employment in the industry fell by 19%, between the end of 1990 and the beginning of 1996 (Bowden, 2000).

Although employment has fallen even further since then, it has necessarily been slowed by the fact that the coal industry has yet been unable to take full advantage of the automation of mining machinery. This is due to the greater complexity and hazards of coal mining, as well as the smaller scale of coal operations compared to iron ore (CFMEU, 2019, Dec). Despite this, BHP announced in November 2019 that it would be introducing 86 autonomous haul trucks to its Goonyella Riverside coal mine over the next two years (CFMEU, 2019, Dec). Other mine owners are certain to follow suit, such is the competitive nature of the coal market. The present concern for workers and unions is that any move towards automation will further threaten jobs at a time when wages and conditions are already under increasing attack by the outsourcing of permanent jobs to labour-hire agencies.

Mining the Future: Post-Market Society and the Capital-Labour Conflict

From the foregoing document analysis and interviews of this chapter, it is difficult not to conclude that with the efficiencies of automation denied them for the moment, coal owners have embraced a casualisation of the workforce using labour-hire as a way to cut back the wages, entitlement costs, and employment conditions of their workers. What may have begun as a strategic exercise to use the flexibility of temporary workers, has covertly changed into a concerted effort to further reduce union effectiveness, along with the wages and conditions of the workforce. It is also difficult not to draw the conclusion that the inability to readily access accurate figures on labour-hire is a part of this clandestine effort. From the perspective of CIT, it is evident that the dissimulation of the ABS, the employer groups, and the government, is just another example of a "state and employer counter-mobilisation of the type which has occurred at regular intervals throughout the history of capitalism" (Kelly, 2002, p. 124).

The parallel between the present coal workers of the Eastern States, and the handloom weavers of Northern England during the Industrial Revolution (Chapter 3) presents a sobering picture. In the case of the handloom weavers, the capitalist owners were able to hold off the introduction of machinery for twenty years by virtue of their being able to force wages down from 30 shillings to four or five shillings per week before unionisation enabled a reversal of this trend (Thompson, 1966). In the present Australian coal industry, employers, having been enabled by government legislation to decimate the power of the unions, and faced with logistical impediments to the introduction of automated machinery, have undertaken a course to beat down the wages of coal workers by the subterfuge of labour-hire. In the case of the 18th-century handloom weavers, capitalist greed admitted to no boundaries so that:

> … a very great number of the weavers, could not obtain sufficient food of the plainest or cheapest kind; were clothed in rags and ashamed to send their children to Sunday School; had no furniture and in some cases slept on straw; worked "not infrequently sixteen hours a day"; were demoralised by cheap spirits, and weakened by undernourishment and ill-health. (Fielden, as cited in Thompson, 1966, pp. 288-9)

With the union movement today rendered virtually powerless by successive government legislation and employer collusion, it is difficult to see from which direction any vestige of Polanyi's double-movement might arise to prevent a similar fate befalling Australian coal workers.

Mining the Future: Post-Market Society and the Capital-Labour Conflict

If the current Morrison LNP Government is replaced at the next election by an Albanese Labor Government, it is likely that Labor will enact legislation to prevent the erosion of wages that has been occurring under the present incumbent. Whether or not they will be equally as successful at achieving wage parity for casual labour-hire workers is in much greater doubt. Shadow Minister Bourke, in his confident assertions, may have forgotten the humbling experience of a former Labor Government that sought to take on the mining industry, but it is certain that the neither the industry nor the Murdoch press will have forgotten. From the interviews it is evident that the workers, who have the closest association with the companies, are far from convinced of success.

From Rio Tinto's 1998 assertion that the poor performance of their coal interests is due to previous unsatisfactory management of employee relations (McKinnon, 2007) is indication that they believe their permanent workers are overpaid. When I put this proposition to 'AE' in the interviews his response was *"Probably are (laughs), but they work hard for it"*. If figures from the Chapter 7 analysis revealing just 25% permanents remaining on some mine sites are correct, it would inconvenience the coal owners little to shed 25% of their workforce in the next downturn. They have certainly done no less on previous occasions. Where then the wage parity question?

Shadow Minister Bourke's observation that the labour hire substitution problem extends much further than the mining industry underlines the fact that right across industry and business, there are unscrupulous employers using labour hire to take working conditions back to the 19th-century. And, as happened in the 19th-century, those employers who might be inclined to show consideration for their workers are destined to be driven into insolvency by those prepared to be ruthless. Backed by a compliant government and media and opposed only by the shadow of a once all-powerful union movement, the capitalist entrepreneur's vision of a utopian future appears to be one where a handful of technocrats and skilled engineers tend the automated production processes, while the discarded masses are left to languish in a welfare workhouse, out of sight, and certainly out of mind.

Chapter 8.

Mining the Future: Implications of the Antipathy between Capital and Labour

Introduction

Chapter 8 brings together the findings of this research in the process of addressing Research Question 3.

> RQ#3: What implications might the antipathy between capital and labour have for the future of industry development and employment in Australia in the 21st-century and beyond?

Beginning with a revision of the origins of industrial capitalism in 18th-century England, the chapter questions why the antipathy between capital and labour is persisting after some two centuries. It then proposes an answer to this question, concluding with some of the likely implications of this answer for the future of industrialised society.

A Working-Class Predicament

As a preamble to this section, it seems apposite to revisit James Bronterre O'Brien's description of what he called the 'working-class predicament':

> These two classes never had, and never will have, any community of interest. It is the workman's interest to do as little work, and to get as much for it as possible. It is the middleman's interest to get as much work as he can out of the man, and to give as little for it. (as cited in Thompson, 1966, p. 822)

As previously noted, this situation may well have been called the 'capitalist predicament', as it set 'man against master', as O'Brien would have described it, to the ultimate detriment of both. The questions that arise from the apprehension of such a predicament are: *Has this situation always prevailed?* (When?), and if it has not, *what were the circumstances that contributed to it arising in the first place?* (How?). If these can be answered satisfactorily, there is still one further question begging an answer: *Why, after some two centuries of industrial capitalism, is this predicament persisting?*

In attempting to formulate answers to the first two questions it appears that it was only with the advent of industrial capitalism in late 18th century England that such antipathy as has been observed to exist between capital and labour began to be cast in high relief. In an earlier epoch under the English feudal system, although a peasant was beholden to his lord, in these self-sufficient communities (Verburg, 2012) each had

certain reciprocal rights and obligations under the 'custom of the manor' (Patriquin, 2002).

For capitalism to gain a foothold, it was necessary that this custom of the manor with its common rights be destroyed. As discussed previously in Chapter 3, this was accomplished by the movement, beginning in the 12th century, to 'enclose' the land thereby depriving the community of common rights. Gathering pace over the ensuing 500 years, the 'enclosure movement' ensured that 'peasants', divorced from the means of agricultural production, had no option but to become wage labourers (Patriquin, 2002). This initially as farm workers during the Agricultural Revolution, and subsequently, as labourers in the mills and factories of the Industrial Revolution. It was in this most profound social revolution that the scene was set, and the cast delineated, for the mutual antipathy of O'Brien's 'predicament'.

By this simple expedient of excluding the peasants from their means of production, the entire basis for the economy of the country was changed. Previously, the wealth of the country's economy, such as it was, had been distributed among the participating populace according to long-established custom. Under the new 'capitalist' regime, however, the wealth generated by this greatly enhanced economy was distributed by the wages paid to those who laboured. The rate of such a wage, unlike custom, was subject to the vagaries of supply and demand, and in the burgeoning English population, boosted by the efficiency gains in agriculture under the new capitalist regime, it was to be the market that determined the level of those wages.

If Max Weber's observations were correct, the antipathy remarked by O'Brien between the capitalist class and the wage-labourers did not become a widespread phenomenon in England until the end of the early age of capitalism in the 19th century (Weber, 1961). By this time the discipline of the 'protestant work ethic' had lost its religious legitimation, and wage-labourers had been increasingly exposed to the radical influence of Thomas Paine's *Rights of Man* published in 1792, as well as the Chartist Movement, and groups such as the reformist *London Corresponding Society* (Thompson, 1966). The storming of the Bastille in France in 1789 had also fed the fires of a home-grown Jacobin movement back in England, raising alarm among the propertied classes (Thompson, 1966). Cooke Taylor, writing in 1843 of the masses accumulating around the 'crowded hives' of the mills, noted:

> There are mighty energies slumbering in these masses … The manufacturing population is not new in its formation alone: it is new in its habits of thought and action, which have been formed by the circumstances of its condition, with little instruction, and less guidance, from external sources. (as cited in Thompson, 1966, p. 191)

It would be a mistake, however, to assume that the Industrial Revolution in England was everywhere uniformly characterised by a wave of mechanisation. In the early 1830s the cotton hand-loom weavers, whose ruthless exploitation by capitalist employers has been described in Chapter 3, greatly outnumbered all persons employed in the spinning and weaving mills of all fabrics combined (Thompson, 1966). The threat of mechanisation enabled employers to beat their wages down shamelessly so that they "could not obtain sufficient food of the plainest or cheapest kind; were clothed in rags and ashamed to send their children to Sunday School …" (Thompson, 1966, pp. 288-9). Such is the competitive nature of capitalism that employers in this economy who might have been inclined to show consideration for their workers were driven to insolvency by those prepared to be ruthless.

From this time, wage labourers began by degrees to think of themselves as a collective, having interests that were against those interests of other classes. Cooke Taylor's 'mighty energies slumbering in these masses' came awake, as from the mid-1850s they began to form themselves into unions:

> Set[ting] themselves resolutely to resist the worst of the legal and industrial oppressions from which they suffered, [they] slowly built up for this purpose organisations which have become integral parts of the structure of a modern industrial state. (Webb & Webb, 1894, p. 162)

In the fires of the Industrial Revolution, the working-class was born, and it now set its face resolutely against its oppressors.

Opening Pandora's Box

The foregoing answers well enough the 'when' and 'how' of O'Brien's predicament; but what of the 'why'? Why is this predicament persisting in industrial capitalism after more than two centuries? To discover an appropriate answer to this third question it will be necessary to probe deeper still. To do so will uncover the strange metamorphosis of what is arguably one of the primary transformative elements of the great societal change that marked the transition from feudalism to capitalism. That element is ***greed.***

Although it was identified by Marx (1887) as the driving factor of capitalism, greed is difficult to define accurately. Greed has been described by psychoanalyst Donald Winnicott as "something so primitive that it could not appear in human behaviour except disguised" (as cited in Sievers, 2012, p. 26). Nikelly (as cited in Farrugia, 2002, p. 119), defined calculated greed as "the 'pleonexic [sic] personality disorder' which is characterised by the acquisition of goods, status, or power beyond reasonable limits and without regard for others or the common good". Greed was considered a moral deficiency of the individual from ancient times to the Renaissance, "with consequences harmful to individuals and community alike" (Verburg, 2012, p. 518).

Recognised only for its destructive qualities, greed had little place in English feudal life. Although doubtless there were regional variations in the expression of feudal communities, all could ultimately be equated to Tönnies' *gemeinschaft* pattern by the most basic unit of association being the family household, with the village as the next level of social organisation. The village consisted of a collection of closely associated households that served each other's needs through extensive cooperation and exchange (Patriquin, 2002; Verburg, 2012). In such an economically static and self-sufficient community it would not have been possible for an individual to amass wealth except by an unjust and greedy accumulation at the expense of others in the community. Verburg (2012) referred to this situation as a 'zero-sum game', there being no net increase in wealth possible by this means, only an exchange.

As the Agricultural Revolution fostered the advent of capitalism from the end of the 15th century, it was gradually realised that the profit which originated in the process of production was a separate source of income in its own right (Verburg, 2012). With this realisation the emphasis on accumulation shifted from exchange to production, opening the possibility of trade and commerce as a 'positive-sum game', in which wealth could accumulate to all involved. During the seventeenth and eighteenth centuries, philosophers gradually came to accept the social utility of greed, believing that it could provide a primary motivation for trade and commerce. They concluded that competition between capitalists would provide the necessary conditions for the establishment of an equilibrium. As Verburg noted:

> Thus, the idea arrived of a system of reciprocal relations of exchange, represented as a mechanical system, regulated by providential laws, from which all would

> benefit. And if this system was allowed free play, competition would ensure that everyone shares in the benefits. The result would be a well-ordered and prosperous society as the outcome of exchange transactions between individuals, in which greed works only when one reckons with, and tries to accommodate, the needs of others. (Verburg, 2012, p. 536)

While the possibility of achieving such an equilibrium promoted an optimistic outlook, there was an obvious flaw in this reasoning. Almost without exception, by its very definition, greed, since time immemorial, has been distinguished by the total lack of regard for the needs of others, or for the common good (Farrugia, 2002; Seuntjens et al., 2015; Wight, 2005). Haynes et al. (2015) have described greed as one extreme endpoint of a continuum, with altruism, a concern for others, being the opposite endpoint. Self-interest, which Adam Smith in *Wealth of Nations* considered the driver of economic progress, exists somewhere along this continuum, perhaps a little closer to greed than it is to altruism. Beyond a certain tipping point, however, healthy self-interest will become greed.

Many have made the mistaken assumption of equating greed with Smith's 'self-interest', but this view is erroneous as Smith drew a distinction between greed and selfishness on the one hand, and prudent self-interest on the other (Wight, 2005). However, despite, or perhaps because of this confusion, by the beginning of the age of industrial capitalism, greed had become rehabilitated. From the most reprehensible of vices, it was now accepted as an almost indispensable beneficial source of prosperity in society.

'Let Slip the Dogs of War!'

It was to be but a short time before the supposed equilibrium between greed and competition imagined by the 18th-century philosophers was tested. Thompson's 'great gentleman clothier', employing as many as 1,000 hand-loom weavers in Lancashire and Yorkshire at the end of the 18th century, managed to beat down their wages from 30 shillings per week to a mere four or five shillings by the simple expedient of creating a monopoly which avoided competition (Thompson, 1966). A further proviso in the philosopher's concatenations had been that the system of competition be allowed free play to achieve equilibrium. Such requirement was 'honoured more in the breach than the observance' by the ruling classes. To assist the gentlemen clothiers of the north of England in their quest for riches, the parliament abetted the breaking down of apprenticeship conditions, allowing the entry of 'illegal men' into the industry

(Thompson, 1966; Webb & Webb, 1894). Both actions were well beyond the tipping point where self-interest gives way to socially destructive greed.

In January 1834, various trades seeking wage security and social reform amalgamated into a 'Grand National Consolidated Trades Union'. Alarmed employers met this by "[using] their political and magisterial power against the men without scruple, inciting a willing government to attack the workmen's combinations by every possible perversion of the law and partiality in its administration" (Webb & Webb, 1894, p. 149). Once again, demonstrating their natural alliance with capitalists, the governing classes appeared determined to keep working men "in a state not merely of subjection, but of abject submission" (Webb & Webb, 1894, pp. 148-149).

History Repeats

The results of the Chapter 7 analysis would seem to indicate that 21st-century Australian mine owners are bent upon repeating this history. Since the Keating Labor Government obligingly abolished the Coal Industry Tribunal in 1995 (Bowden, 2000), wages and conditions of coal workers have been under attack. The Morrison LNP Government has busied itself about providing just the latest smokescreen of denial and obfuscation of the growing prevalence of labour-hire in the industry. Once Australian mine owners have achieved their aim of a fully casualised workforce, what might remain to constrain the downward pressure on wages and conditions?

Broken Hill

And should it be thought that only the capitalist and ruling classes have a monopoly on greed, the mining unions of Broken Hill Australia in 1892 demonstrated that they too could exercise a remarkable degree of greed. Amid accusations of 'sleeping underground', and 'systematic soldiering' they refused to accept the company's decision to introduce contract mining in response to falling productivity and weak market conditions, instead calling for a general strike. In this instance, they found themselves 'out-greeded' by the company, which responded by not only sacking and blacklisting the entire 3,000 strong workforce but also by cutting the pay rate of the newly contracted replacement workforce by ten percent. Need it be mentioned that the government, judiciary, and police were again complicit in the company's action against the miners?

After the Great Depression of the 1930s, the miner's unions again demonstrated themselves amply capable of greedy action when they instituted restrictive work practices and work bans in the face of the conciliatory management policies of the Collins House companies. Benefiting from the windfall payments of the lead bonus after WWII, they went as far as moderating their work effort, without thought for the profitability or viability of the companies. Under the easy affluence of the lead bonus payments, Taylor's 'systematic soldiering', itself just another manifestation of greed, had once again emerged.

The Pilbara

Initially, the Pilbara held promise for a more tractable industrial relations environment. With both companies and unions agreeing to accept the mediation of the Western Australian Industrial Commission as an independent arbiter, perhaps the worst expressions of industrial conflict could be avoided. However, it was not to be. The dust had barely settled on the construction phase before the battle lines between companies and unions were drawn.

No one could deny that the living and working conditions in the Pilbara were difficult in the early years, and doubtless, the companies were slow to respond to this in what was then a frontier environment. The union leadership, however, quickly realised that the companies were in a tight position financially and used this knowledge to push home their advantage. Looking back from the vantage point of the 21st century it is difficult to comprehend the degree of hubris that the union leadership was able to acquire over the 1970s and early 1980s. The naked greed frequently exhibited by convenors and shop stewards appeared to have been motivated by the pursuit of power and prestige rather than money. CEO of Mount Newman Mining, Gordon Freeman, eventually concluded that the potential loss of jobs was unimportant to the union leadership, compared to their long-term goal of destroying capitalism.

Neither was the arbitration offered by the Industrial Commission able to provide a solution. Seemingly unable to grasp that companies that had invested many millions in mining ventures had to justify that decision by a reasonable return to investment, the Commission's rulings all too often favoured unions in an overriding, and ultimately futile effort to maintain industrial peace. Bradon Ellem noted that for Charles Copeman and his Peko-Wallsend team at Robe River, the Industrial Relations Commission was

almost as much of a problem standing in the way of necessary company reform as were the unions (Ellem, 2017).

'A Cardinal Sin'

It seemed that neither the competition envisaged by the 18th-century philosophers, nor the adjudication of a supposedly independent umpire was able to achieve the necessary balance between greed and utility. Greed, whether that of the companies or the union leadership, had proven to be only destructive in the long term. Both company and union leadership had shown themselves equally capable of "the acquisition of goods, status, or power beyond reasonable limits and without regard for others or the common good" (Nikelly, as cited in Farrugia, 2002, p. 119).

Greed, characterised by early Christianity as one of the "seven cardinal sins that lead to eternal damnation" (Seuntjens, 2016, p. 32), appears to be an inescapable facet of the human condition. The competitive element of capitalism, rather than facilitating an equilibrium as the 18th-century philosophers had imagined, ensures that the tipping point at which a virtuous self-interest becomes greed will be reached by either O'Brien's 'middleman', or his 'workman', sooner or later. Such expressed greed will then engender a sense of injustice in those who feel themselves wronged, after which, all that is required is a determined leadership to ensure that the internecine struggle of mobilisation and counter-mobilisation between capital and labour will begin anew, as it has for the last two centuries.

A Tale of Two Futures: of Mining, and Work

The previous section directed attention to the phenomenon of greed in the capitalist system. This section looks to continue addressing Research Question 3:

> RQ#3: What implications might the antipathy between capital and labour have for the future of industry development and employment in Australia in the 21st century and beyond?

It first examines the long-term capitalist response to the union greed of the late 20th-century by considering through the lens of the mining industry, how technology-labour substitution will continue to develop in the near future. The section will then extrapolate to the world of work and employment beyond mining, to consider the implications of technology-labour substitution for society at large, as the increasingly capable machines now being developed accelerate the replacement of human workers across the board.

The Future of Mining

For the transnational capitalist mining companies, a probable solution to O'Brien's predicament is becoming more evident with each passing day. It may soon be possible for companies to eliminate the troublesome working-class from many mine sites almost completely. The section titled 'The Mine of the Future' in Chapter 6 discussed how mining companies are enlisting the latest developments in artificial intelligence (AI) and robotics as a replacement for human operators. Ostensibly to enhance the safety of mining operations, it will not have been missed that autonomous mining machinery, although requiring substantial initial capital outlay, does not seek to join a union, take rest breaks, engage in 'systematic soldiering', loiter over shift changes, or require 12 hours off in every 24 (Davis, 1983; Galbraith, 1998), as well as needing both holidays and sick leave. Autonomous machines are also able to be brought online or stood down at a moment's notice as work scheduling might require. Currently, such machines at Rio Tinto's Pilbara sites are monitored from an operations centre in Perth. A single human operator can oversee the progress of machinery in the Pilbara from 1600 kilometres away, replacing numerous on-site human operators. The direct cost savings are obvious. Bradon Ellem quoted a financial analyst who gave the following example:

> Accommodation and flight costs would be cut and the company could say to itself:
> 'instead of having someone we have to pay $300,000 a year, say, to be on-site …
> all the extra cost of fly in/fly out, we can get a skilled person for $75,000 or
> $80,000 a year to do that same job'. (Ellem, 2017, p. 187)

As autonomous machines become more capable, they are requiring less human supervision. Not too long ago, such machines had to be laboriously programmed to carry out a limited range of operations within carefully defined parameters (Susskind, 2021). Today, 'intelligent' machines with a 'deep learning' capability have been developed , able to program themselves with no human input.

Machine 'intelligence' as it is currently being developed is clearly of a different order to human intelligence. Susskind, looking at possible future limitations of machine intelligence stated:

> If machines do not need to replicate human intelligence to be highly capable, there
> is no reason to think that what human beings are currently able to do represents a
> limit on what future machines might accomplish. Yet this is what is commonly
> supposed – that the intellectual prowess of human beings is as far as machines can

> ever reach. Quite simply, it is implausible in the extreme that this will be the case.
> (Susskind, 2021, p. 74)

One dictionary definition of intelligence is "the ability to acquire and apply knowledge and skills" (Lexico, n.d.), a definition which would arguably apply to the class of autonomous machines being discussed here. However, to many people, the concept of 'intelligent' machines conjures fears of a future dominated by super-intelligent machines that ultimately bring the threat of enslaving humanity, a theme frequently expressed in the science fiction genre.

Such fears are misplaced. Intelligence in this sense is being equated with consciousness, which, as far as has been observed by both philosophers and neuroscientists, is a property exhibited exclusively by biological organisms (Dennett, 1995; Seth, 2010), and which may never be achievable by machines (Larson, 2021). Despite this apparent lack, increasingly capable machines are now being developed that one day may fully assume the burden of production without ever becoming conscious of either themselves, or of the human workers that they are displacing. Such a property is better referred to as machine 'capability', rather than machine 'intelligence' (Susskind, 2021).

Looking to the not-too-distant future, as mineral resources become depleted on Earth, the next generation of mining is likely to be carried on in the depths of the ocean and in outer space, environments equally inhospitable to humans. Such environmental limitations would not, however, deter autonomous machines. Both government and private enterprises are currently spending $billions on research into the development of a space mining industry, to exploit minerals on the Moon, Mars, and nearby asteroids. Some of the private enterprise companies involved in this research are Deep Space Industries (DSI); Moon Express; Planetary Resources Inc.; and Shackleton Energy Corporation (Jakhu & Pelton, 2016), as well as the higher-profile Boeing and SpaceX.

Professor Andrew Dempster from the University of New South Wales is the Director of the Australian Centre for Space Engineering Research. He has stated that Australia is in a prime position to benefit from next-generation space mining due to the extensive experience that is currently being developed in mine site automation (Dempster, 2019). With future space mining operations conducted by increasingly capable autonomous machines remotely monitored either from earth or an orbital platform (Craig et al., 2014), a skeleton staff of highly qualified (and highly paid)

engineers is likely to comprise the entire mining workforce. This will certainly solve O'Brien's predicament for the capitalist class, but where will it leave the former mineworkers?

The Future of Work

The analogy that this study has been drawing between the mining industry and general industry in Australia, as useful as it is, can only be taken so far. The analogy holds good in that both industry sectors have been characterised by capitalist corporations with a wage-earning workforce, and that both became subject to the same increasing pressures on the profitability of capitalist enterprises during the 1960s and 1970s. Where the analogy begins to break down is in the different responses that were available to each of these industry sectors in the face of those pressures. Even at this disjuncture, however, there are useful observations to be made.

As early as 1943, the Polish economist Kalecki (1943) had warned that the full employment policy of Keynesianism would eventually become a problem for capitalism as it was likely to change the balance of power in the labour market, creating inflationary pressure as workers demanded wage increases. Until the late 1960s, this inconvenienced Western capitalist countries little, as corporations, other than those involved in resource export industries, were able to pass on wage rises to the consumer by charging higher prices (Volscho, 2017).

Neoliberalism: The Great 'Offshoring'

By the 1970s this was no longer possible as corporations were beginning to come under increasingly competitive pressure from the post-war rebuilt and modernised infrastructure of German and Japanese industry (Volscho, 2017). In addition, Western industrial corporations now had to contend with a militant labour force long lacking the discipline afforded by unemployment, and who were refusing to accept any responsibility for economic performance (Devine, 2007). Profitability was also being weakened by oil price shocks, consumer and environmental regulations, and progressive taxation from unsympathetic governments (Waterhouse, 2021). The tensions between capital and labour were primed for a shift in the balance of power that would signal the upswing of the next Great Cycle of capitalist ascendancy.

As previously discussed in Chapter 1, across Western industrialised countries lobby groups and pro-business think tanks had been independently preparing for many

years for this rebellion of the working-class. Their response to the labour activism of the 1970s followed quickly. Multi-national manufacturing companies, following the emerging neoliberal mode of development (Neilson, 2012), began to relocate many of their production processes to low-wage countries (Boehm, et al., 2019). The resulting global production networks (GPNs) allowed them to reduce costs and increase profits while largely sidestepping unruly labour at home (Lin, 2021).

A second option open to manufacturers was to increase investment in labour-saving technology. However, research by Boehm et al., (2019) on US manufacturing between 1993 and 2011 has shown that it was the 'offshoring' of production as a result of globalisation forces that was the most significant contributor to employment decline during this period. US manufacturing employment fell from 16 million workers in 1993 to just over 10 million in 2011 (Boehm et al., 2019). Given the pervasive influence of multinational corporations, there is little doubt that this experience was common to all industrialised countries including Australia.

Mining corporations, by contrast, constrained by the immovable location of their ore bodies and the restrictive immigration policies of their host countries, had no option at the time but to stay and fight it out with militant labour. As this study of Australian mining has illustrated, there were several times at both Broken Hill and the Pilbara, where companies were driven close to insolvency by the actions of militant unions before finally managing to subdue their unruly workforces. With the offshoring option unavailable to them, Multinational miners have turned increasingly to labour-saving (read 'labour-avoiding') technology.

In the mid-1980s, when industrial conflict was at its zenith in the Pilbara, mining equipment manufacturer Caterpillar began a research program to develop autonomous mine haul trucks (Viewpoint Mining, 2014). To what extent such a move was prompted by mining company experience with a militant unionised workforce in the 1970s and '80s is seldom admitted openly. Komatsu also began research in the field in 1990, supplying its first 15 autonomous trucks to Rio Tinto's West Angelas mine in the Pilbara in 2008 (Voronov, 2020). The adoption of autonomous technology in Australian mining has since that time been so successful that it has been estimated that the first fully robotic mine could be operational by 2024 (Gray, 2019).

Mining multinationals, therefore, were forced to pioneer autonomous machine technology because the 'offshoring' route to sustain profitability was not an option that was open to them. Consequently, large-scale mining in Australia today is in the vanguard of industry and business in the adoption of such technology. The waves of unemployment that have been occurring in manufacturing, general industry, and business since at least the 1990s have been largely attributable to offshoring to low-wage countries of both production (Boehm et al., 2019), and services (Moncarz et al., 2008).

The significance of this seems to have been overlooked by some authors writing in this space. Jeremy Rifkin (1996), in his book, *The End of Work* makes no mention of the role of offshoring on rising unemployment in manufacturing, attributing the cause solely to "the inexorable march of, first the machine, and now automation" (Coyle, 1996, p. 41). Similarly, in Daniel Susskind's (2021) otherwise excellent book, *A World Without Work,* much is made of the threat to employment posed by automation technology, without once mentioning the social displacement already caused by the neoliberal capitalist practice of offshoring work to cheap labour countries.

The danger in the myopic view encouraged by this approach is that it is likely to lead to an underestimation of the threat to employment posed by automation technology because, for general industry and business, unlike mining, such technology is still in the early stages of implementation. The first 'fully robotic' mine is anticipated to be operational in Australia by 2024 (Gray, 2019), well in advance of any similar application across business and industry. When business and industry do catch up, however, the effect will be compounded by the already present severe dislocation attributable to the 'offshoring' of jobs.

COVID-19

As if the threat of human displacement in the workplace by machines was not already of sufficient concern, in late 2019 the world became aware of a new global threat to the workforce in the form of the pandemic, COVID-19. Highly contagious and with an alarming fatality rate, COVID-19 is expected to further hasten the replacement of human workers with machines as industrialists, manufacturers, and distributors seek to minimise future disruption to their operations. As Blit (2020, pp. 2-3) noted "[t]he best way for firms to protect workers and mitigate risks to their operations [from

COVID-19] is to replace worker-worker interactions with worker-machine interactions, or better yet to dispense with workers altogether". There are also indications that the vulnerability of workers to COVID-19 in the extended supply chains of GPNs will contribute to a rise in 'reshoring', as manufacturers consider returning operations to their home countries (Ellram et al, 2013). This is certain to lead to an increased drive towards automation as manufacturers lose economies formerly available from offshoring.

The recent response of one major multi-national mining company in Australia to an outbreak of COVID-19 provides a timely example of how industries and businesses will respond to meet the threat to their operations posed by such pandemics. In early July 2021, Newmont Mining's gold mine in the remote Tanami Desert of the Northern Territory was shut down when a returning FIFO worker tested positive for COVID-19. The mine was immediately put into lockdown for 14 days, but by that time, up to 900 shift-changing FIFO workers had already flown home, precipitating immediate lockdowns in Alice Springs and Darwin, with concerns also expressed for Perth (Vivian, 2021).

The company's strategic response came just four months later. In early October, Newmont and Caterpillar jointly announced an initiative to rapidly deploy an all-electric autonomous fleet of haulage trucks (Business Wire, 2021, Nov 10). In the press release, much was made of the reduction in greenhouse gas emissions of electric vehicles, with no mention of the politically sensitive, COVID-minimisation achieved by the consequent reduction in human operators (Jowitt, 2020).

The Age of Labour

Elizabeth Humphrys, quoted previously in Chapter 6, stated that "the twentieth century was, ultimately, bookended by the formation and decline of organised labour in most advanced capitalist countries …" (Humphrys, 2019, p. 1). Daniel Susskind has also noted this period, calling it "The Age of Labour" (Susskind, 2021, p. 29). Susskind's insights into the development of technology across industry during this period hold some disturbing implications for the future of organised labour, and of the practice of work as we have come to know it, in this and other Western industrialised countries.

Ever since the introduction of mechanisation during the Industrial Revolution, people have worried that machines will 'take their jobs'. These fears, repeated every so often since then, have proven largely groundless. Despite the compounding increase in technological advance since that time, there has always been sufficient demand for the work of human beings to avoid large-scale unemployment. In fact, for much of that time, the opposite has been the case, with machines so contributing to the productivity of human beings that many more job opportunities have been created as a result. This helpful **'*complementing force'*** of machine technology is, according to Susskind (2021), what has been responsible for 'The Age of Labour'.

The complementing force of machine technology became quite prominent at Broken Hill leading up to the Second World War. Manual mining techniques were giving way to more mechanised ore retrieval using mechanical loaders and underground locomotives, greatly increasing the productivity potential of each worker. Despite this increased potential, and to the great frustration of employers, productivity per worker decreased in the post-war years as unions, fearful of job losses, responded by moderating their work effort (Shields, 1997).

Job losses in the affected area of an industry have been an inevitable result of machine complemented productivity increase. However, as the prosperity induced by such productivity increase flowed on to the rest of the economy, displaced workers were easily absorbed into other areas of that industry, or into other sectors such as manufacturing. The net result of this was that the 'economic pie' of the country got larger, with workers not so much losing jobs as being 're-assigned'.

Daniel Susskind has given the example of the USA, in which agriculture was a critical part of the economy 100 years ago, employing two in every five workers. As agricultural employment declined due to mechanisation, workers shifted into manufacturing. By 1970, manufacturing employed one-quarter of all American workers before itself declining under the neoliberal capitalist mode of production, to the point where today it employs less than one-tenth of that number. Today, 80% of all American workers are employed in the services sector (Susskind, 2021). The trend across Australian industry has been comparable, with over 85% of Australian workers now employed in the services sector (Figure 10). The formerly proud working-class,

pretensions of upward mobility notwithstanding, has now slipped to become the 'service-class'.

Figure 10. *Australian employment by industry (From ABS; RBA; Withers, Endres and Perry, 1985)*

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Although this is usually exemplified as a positive, the disadvantage to former manufacturing workers in first-world countries is plain. The formerly well-paid manufacturing jobs have not been lost. They have simply been reassigned for the present, under the neoliberal mode of production to 'offshore' manufacturing facilities in low-wage countries. The concern is that should future economic circumstances dictate that these jobs return to their home countries, it is certain to be to highly automated factories employing few workers.

The Age of Machines

As well as the complementing force of machine technology, Susskind (2021) also identified an opposing *'substituting force'* to replace human workers, which comes into play when machines have achieved a certain level of capability. In the mining industry in Australia, this is exemplified by the ongoing adoption of autonomous machinery since 2008, that is witnessing the displacement of many previously well-paid operators' jobs. These are being supplanted by fewer, and higher paid jobs, requiring

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skills in science, technology, and engineering, as well as those skills needed to design and maintain the autonomous systems (Australian Institute of Mining and Metallurgy, 2020, Aug 17).

Such skills may be difficult for current and former mineworkers to acquire in an environment where they may have to forego full-time employment to upgrade, only to then compete for positions with younger university graduates. Despite the fanfare with which the Hawke Labour Government introduced its program for a more flexible, highly trained workforce in the 1980s (Kelly, 1994), there followed little actual achievement in retraining for higher skills, either by the Hawke, or any subsequent Australian Government. However, it is entirely likely that even should such training be offered in future it may achieve little in the way of re-employment. As Jeremy Rifkin observed:

> The few good jobs that are becoming available in the new high-tech global economy are in the knowledge sector. It is naïve to believe that large numbers of unskilled and skilled blue and white collar workers will be retrained to be physicists, computer scientists, high-level technicians, molecular biologists, business consultants, lawyers, accountants and the like. (Rifkin, 1996, p. 36)

The trend towards the adoption of more capable and autonomous machines is not only confined to heavy industry. The technological encroachment into other workplaces formerly dominated by human beings is becoming inexorable. Although in Australian manufacturing this has been masked by the loss of entire industries to overseas cheap labour countries, who could have missed the advent of self-serve petrol, the replacement of bank tellers with machines, or the more recent introduction of robo-teleoperators and auto checkouts at supermarkets, to state only the most obvious examples.

Compounding the loss of jobs to offshoring, every day machines are becoming more capable of displacing the remaining human jobs. The result, now all too visible, is the 'hollowing out' of the formerly well-paid middle range employment, leaving a jobs market composed of high paid, high skill jobs at the top, and low paid, low skill jobs at the bottom (Susskind, 2021). The 'gig economy', has become a commonplace term in the current vernacular, and although denied by the Morrison LNP Government, labour hire is increasingly substituting for permanent jobs. For those people losing out to automation in the middle range jobs, who are either unable or unwilling to move up to the high paid, high skill sector, there remains only the slide downwards into low paid

and casual work, or unemployment. As machines become ever more capable this trend is certain to increase as the remaining employers in industrialised countries enthusiastically adopt technology-labour substitution in a bid to eliminate human relations problems. Eventually, even the low paid menial work will become mechanised, leaving a future where a relatively small number of high-skilled people will have enough work.

The majority of the Australian workforce, currently employed in the services sector, should not feel complacent about this trend as 'intelligent' machines begin to encroach on areas previously thought safe from mechanisation. Machines are proving increasingly capable in such varied areas as law, medicine, education, finance, insurance, and even on tasks that require our affective capabilities (Susskind, 2021). Jobs in the health sector which have previously been regarded as not easily automatable, are likely to increasingly succumb under the pressure of the COVID-19 pandemic.

With indoor and face-to-face interaction posing a strong transmission risk in the health sector, machines are expected to make significant future inroads. Susskind (2021) gives the example of a humanoid robot, 'Pepper', which greets guests in Belgian hospitals and guides them to the right department. In Japan, which has one of the largest elderly populations in the world and antipathy toward foreigners working in their public services, progress in the adoption of nursing robotics has been remarkably swift (Susskind, 2021).

The New Enclosure Movement

Once machines achieve a certain level of capability, it is inevitable that the 'substituting force' to replace human workers will predominate over the 'complementing force'. This is not something that will happen overnight, nor will it happen evenly across all areas of human occupation, but it is already well under way, and will only accelerate with the increasing sophistication of machine development. The 'hollowing out' of middle-range jobs and the proliferation of part-time and 'gig' jobs are the 'canaries in the coal mine' warning of perilous times ahead.

There was a time when a future with a greatly reduced demand for work was regarded with positive anticipation. Maynard Keynes (2010), in *Economic Possibilities for our Grandchildren*, had calculated in 1930 that within just 100 years, due to technological advances, the average person would enjoy an age of leisure and

abundance in which they should likely have to work only a fifteen-hour week of three-hour shifts. With just over eight years left in which to achieve Keynes' anticipated utopia of 'leisure and abundance' it has become plain that there was a missing factor in his calculations. The missing factor that Keynes neglected to allow for was how to ensure that the wealth generated by technological advance would be shared equitably across society.

As has become evident throughout this study and exemplified in contemporary society since the end of 'the age of labour', human greed has largely succeeded in garnering the greatest portion of that wealth to those who control the means of production. It appears that the enclosure movement which first began to separate the 'peasants' from their means of production in 12th century England was in fact, never completed. It has taken a further 900 years for technological advance and human greed to reveal that in the 21st century we are on the cusp of seeing the enclosure movement realise a final consummation in the exclusion of the greater mass of the non-capital-owning class from an equitable share in the bounty of the dawning machine age. Is such a scenario as inevitable as this reasoning seems to indicate, or is there yet a way to achieve Keynes' 'age of leisure and abundance'? There does not appear to be a third alternative to either of these two possible futures.

The New Social Order: A Post-market Society?

The enclosures of Medieval England precipitated a fundamental change in the way society was ordered as it made the transition from feudalism to capitalism. In English feudal society, production was limited to that achievable by human and animal input, insolation, and the simple carbon fuels of wood and charcoal. All classes lived barely above subsistence level, and the wealth of the country, such as it was, was distributed by custom and exchange.

By the early 16th century, as the Agricultural Revolution burgeoned in the wake of land enclosures, a new system of distribution, the paying of wages to agricultural labourers was beginning to replace the old system of custom and exchange. Scholars have disagreed on whether this transition was peaceful and orderly; a positive good conducted with the cooperation of the peasants as Prof. Kerridge would have it, or a cruel uprooting of a helpless peasantry as described by R. H. Tawney (Appleby, 1975).

The collapse of the principal institution of poor relief at that time indicates that Tawney's description may have been the more accurate.

The onset of the English Protestant Reformation in the 1530s suggests that the transition precipitated by the land enclosures was anything but peaceful and orderly. The Catholic monasteries that had been the chief institution of poor relief were confiscated by the crown. This resulted in "bands of beggars, robbers, and vagabonds [that] roamed the English countryside" (Lazonick, 1974, p. 17). A more thorough and brutal attack on the fabric of society can scarcely be imagined. It was not until the late 18th century that the new capitalist basis for the ordering of society could be said to be in any way complete.

In the present 21st century, industrialised countries will be forced to seriously contemplate a machine-dominated future in which there may not be enough work for all who want it. As the wage-based system for the distribution of wealth breaks down for many, if we are to avoid a similarly extended period of social disruption where 'beggars, robbers and vagabonds roam the countryside' as they did in Tudor and Stewart England, then planning for a new system of wealth distribution becomes paramount. If Maynard Keynes' vision of 'an age of leisure and abundance' has any chance of being achieved, it is at this very moment that such attention should be concentrated, to preserve as far as possible the human fabric of society.

The Australian Parliament Research Paper (2016) shows that the government has some dim awareness of this uncertain future, but there is little sign beyond this that it is taking the situation seriously enough to act in time. Wealth, there will be in abundance, as ever more efficient machine technology shoulders the burden of production. On this point Littman et al. have stated:

> If AI really does end up increasing 'economic possibilities for our grandchildren', society and government will have it within their means to ensure those possibilities are shared equitably. For example, unconditional transfers such as universal basic income – which can be costly in a world dependent on human labour but could be quite affordable in a world of technology-fueled prosperity and are less of a disorganised patchwork than our current safety net – could play a significant role. (2021, p. 60)

The real difficulty will lie in achieving an equitable means of distributing that wealth.

It is beyond the scope of this present study to investigate what might constitute a suitable means of wealth distribution for the coming Age of Machines, other than to

point out that this is not a new idea. A Universal Basic Income (UBI) has been suggested in various forms in Western industrialised countries since at least 1918 (Australian Parliament Research Paper, 2016). Prior to this date, the tragic results of the Speenhamland enactment in 18th century England as revealed by Polanyi (2001), suggest that this may not be the best solution.

In 1962 Milton Friedman proposed a negative income tax (NIT) scheme which appears to have the advantage that it would supplement low incomes without removing the incentive to continue working for those fortunate enough to have jobs (Australian Parliament Research Paper, 2016). Daniel Susskind (2021) has proposed a 'Conditional Basic Income' (CBI) which, unlike the UBI requires its recipients to do something for society in return. Somewhat reminiscent of Edward Bellamy's (1888) highly popular utopian novel, *Looking Backward, 2000 – 1887,* Susskind's CBI would seem to offer a model at least capable of advancing the debate in the right direction. For any such wealth distribution method to lead to a successful and stable post-market society, the imperative would be to avoid the punitive stigma associated with current and past 'welfare' schemes.

What of the Double-Movement?

In 1944, when Karl Polanyi developed his thesis of the double-movement in *The Great Transformation,* he proposed that market societies were composed of two opposing forces. On the one hand, were the *laissez-faire* attempts to expand the scope of the free market. Opposing these attempts was a protective counterforce that spontaneously emerges as elements in society moved to prevent attempts to establish such a market. These elements Polanyi described as:

> … those most immediately affected by the deleterious action of the market –
> primarily, but not exclusively, the working and landed classes – and using
> protective legislation, restrictive associations, and other instruments of intervention
> as its methods. (Polanyi, 2001, pp. 138-139)

This study has shown that the collective actions of the working-class have repeatedly been instrumental in countering some of the worst excesses of market liberalism as capitalist employers have sought to reduce wages and conditions. Protective legislation has also played its part, notably in Australia with the institution of the arbitration system to set minimum wages. What had perhaps not been anticipated by Polanyi was that the collective power capable of being wielded by a militant and

unrestrained working-class might itself be equally as capable of threatening the fabric of society as was a *laissez-faire* free market.

A Capitalist Crisis

By the 1970s, the crisis of capitalism forecast by Kalecki was becoming a reality in Western capitalist countries. The full employment policies of Keynesianism had promoted rising aspirations on the part of the working-class whose increasing militancy and wage demands were decimating corporate profits. There is also the probability that, compounding the situation, technology-driven productivity had once again, as in the 1930s Great Depression, outpaced the growth of the market (Rifkin, 1996). By the 1980s this had become a full-blown crisis as the very fabric of society was being threatened by a militant unionism that refused to accept any responsibility for economic performance (Devine, 2007).

The emergence of the 'New Right' with a neoliberal agenda in response to the working-class threat to society epitomised the very essence of a double-movement. It also signalled a shift in the balance of power that precipitated the onset of the fourth Great Cycle of (Kondratieff?) long waves. The result of this counter-mobilisation was that the 1970s, which began with an all-out assault by labour activism, ended with the collapse of Keynesian welfarism and the re-invigoration of the capitalist class by neoliberalism, the very aim and purpose of which was the re-establishment of a free-market society. In the act of overreaching itself, organised labour had precipitated a revitalisation of the very market forces that Polanyi believed would ensure the destruction of society.

As Australia faced the economic crisis triggered by globalisation in the early 1980s, it is clear with hindsight that some factions of the 'New Right' neoliberal lobby groups had the ear of the Hawke Labor Government. Under the guise of the 'Prices and Incomes Accord' negotiated with the unions, the Hawke Government moved to introduce free-market policies which included reducing trade barriers, floating the Australian dollar, deregulating finance, and opening the economy to foreign banks (Humphrys, 2019; Kelly, 1994). Although having pledged to maintain regulation of the labour market, the Hawke and subsequent Keating Labor Governments compromised by introducing an enterprise bargaining system (Kelly, 1994). It remains unclear at this remove whether the Hawke and Keating Governments knowingly opened the door to

neoliberal capitalism, or whether they were misled into believing that they were preparing the way for a more efficient, 'Post-Fordist' economy to counter the challenges of globalisation. Either way, the result of their Prices and Incomes Accord was the emasculation of the union movement, which removed the only remaining barrier to the introduction of neoliberal capitalism into Australia.

Will the State Please Stand Up?

These circumstances have given rise to what can only be described as an unfortunate coincidence of history. It is indeed regrettable that the collapse of organised labour and the rise of neoliberalism in the industrialised world has coincided with the beginning of a machine age which also threatens the future employment of many workers. The emergence of the COVID-19 pandemic in late 2019 with its added incentive towards the adoption of automation, has only exacerbated an already concerning trend. As the labour market begins to deteriorate into a desperate struggle to secure a place in an ever-diminishing supply of jobs, it is unlikely that any double-movement against the free-market ideology currently threatening Western society will arise from within the ranks of the former working-class.

Historically, such a disenfranchisement of the populace has led to the adoption of an extreme politics, in turn leading to an inevitable descent into World War as being the traditionally favoured reset mechanism. If society is to avoid such a catastrophe it will require a timely intervention from the State as the only remaining entity in a position to initiate a double-movement. On present indications in Australia, with both Labor and Conservative parties still firmly supporting the neoliberal agenda, this must seem a remote possibility, but it is highly probable that change will soon be forced upon the State.

Assuming that we can avoid another World War, and as human workers are increasingly displaced by ever more capable machines, it is likely that there will follow two profound disruptions to society. The first of these will be that the current welfare and taxation systems, which have been evolved under a wage-distribution economy, will quickly prove inadequate to service the rising tide of 'disemployed' workers. The State will be forced to consider alternative policies such as UBI, Friedman's NIT, or Susskind's CBI, along with an extended taxation regime to finance this.

Going on past government performance, the implementation of such a scheme will be slow, grudging, and half-hearted at best. This will risk precipitating the same situation as faced by the Tudor and early Stewart monarchs when land enclosures led to 'bands of beggars, robbers, and vagabonds roaming the English countryside'. Perhaps we have already witnessed the early signs of this in the current youth crime wave in North Queensland, as the young are being disproportionately disadvantaged in the search for meaningful work. The USA, with the highest per-capita incarceration rate in the world, would already seem to be well down this path (Hartney, 2006).

The second disruption will emerge as a consequence of this, as capitalists notice that the market for their goods is rapidly declining as people lose disposable income. Along with the realisation that machines, no matter how intelligent, have no use for capitalist goods or services, will come a realisation among capitalist producers of the need for an new accommodation with the State to found an alternative basis for the distribution of wealth in society as a final act of self-preservation. A resulting legislated double-movement by the State, in its most measured form, is likely to entail a shift from the present liberal market economy (LME) to a coordinated market economy (CME) in which the well-being of all elements in society receive appropriate consideration. Such a double-movement, the only one that appears possible from this perspective, short of a socialist revolution or a war, will bid fair to usher in Maynard Keynes' post-market 'age of leisure and abundance', albeit a little later than he had anticipated. For the State to pass up on this opportunity would be to risk precipitating a re-run of early 20th-century history, beginning from around 1914.

Chapter 9.

Conclusion to the Thesis

This chapter concludes the thesis and brings together the key contributions of the study. It outlines the limitations of the research and makes suggestions for future research.

An Uncertain Future

In seeking to answer the research questions this study has undertaken an examination of the capitalist system of wealth distribution through the lens of the mining industry in Australia. It has proposed that human greed is the principal stumbling block in the way of an equitable distribution of that wealth across human society. In an unregulated labour market, capitalist greed, as observed by Marx (1887), will beat down the labour share of that wealth to below subsistence level to maximise its share. In a labour market regulated by trade union domination, it has proven possible for the greed of labour organisations to maximise their share of that wealth to the point of threatening the viability of the entire system.

The Age of Machines

Capitalists have responded to the most recent threat of labour domination by adopting an extreme form of capitalism, neoliberalism, which has used global production networks to bypass collective labour at home. By also progressively instituting a technology-labour substitution process they have sought to minimise as far as possible the size of their workforce, while at the same time increasing its production efficiency. In the 21st century, this process of technology-labour substitution has advanced to the stage where it is fast becoming feasible to replace the human workforce almost entirely across all industry sectors with a new generation of highly capable autonomous machines. The now two-year-old COVID-19 pandemic has only accelerated this trend.

A New Social Order?

Unless a new basis for the distribution of wealth across industrialised society is progressively instituted as this process continues to unfold, the result will be the impoverishment of the 'working-class', with drastically rising unemployment and underemployment. Galbraith has stated that the resultant "recession in demand and

production remains the major uncovered risk of the modern large corporation" (1998, p. 127). The subsequent loss of much of the consumer market to the capitalists is most likely to be followed by the destruction of the fabric of society for an indeterminate period, as forewarned by Polanyi in 1944.

On a Final Note

As daunting as this prospect may seem to Australian society, there is yet a clearer and more immediate threat that is bidding to catch us even less prepared if that were possible. At the beginning of the section on The Future of Work, it was stated that the analogy between the mining industry and general industry in Australia can only usefully be extended so far. This is principally because the operation of a mine, constrained by the finite nature of mineral deposits, has a fixed and limited life. In 2019 it was estimated that, at the then-current rate of mining, Australia's iron ore deposits, some of the largest in the world, would be exhausted in just 26 years (Summerfield, 2018). Since 2019 the rate of extraction has increased considerably in response to a booming Chinese market.

Even assuming that further deposits are discovered, our largest commodity export will likely be exhausted inside of 30 years. The Australian coal and gas mining industries, subject to increasingly uncertain political considerations, may not last even that long. On the date that mining stops, so does our national paycheck. Those Australians that are fortunate enough to still have a job by then will be principally employed in the services sector. With the country's exports slashed to a pittance, the populace will be constrained to passing around the same few dollars amongst ourselves, while we contemplate a national debt that the country can no longer service and imported goods that we can no longer afford. Perhaps a green hydrogen export industry such as that being proposed by Andrew Forrest, if developed in time, might help Australia as a country avoid this fate, but being highly automated, will provide relatively few jobs for former workers beyond the construction phase.

Key Contributions of the Thesis

The Path to a Post-Market Society

This study has identified four Great Cyclical shifts in the balance of power between capital and labour since the advent of industrial capitalism during the Industrial Revolution of Great Britain. The existence of a fifth occulted cycle, occurring during

the 1930s Great Depression, also cannot be discounted. The climax of each of the four Great Cycles occurred as the balance of power shifted unequivocally between capital and labour. On each occasion the stability of society was disrupted as the successor assumed ascendency for a time. The capitalist ascendency of the fourth Great Cycle has been marked by a diminution in their reliance on the industrialised 'working-class', initially by 'offshoring' production to cheap labour countries, and subsequently, by the increasing adoption of technology-labour substitution as the means to do so becomes available.

Unlike the earlier transitions between cycles, this fourth cycle is assuming an ominous air of permanence that threatens far-reaching effects on the human fabric of industrialised society. The central contribution of this thesis is the recognition that if society is to avoid a descent into yet another repetition of the war, desecration, and abject misery so graphically illustrated throughout recorded human history, it must, in the full knowledge of greed as the driving mechanism of the Great Cycles, reject once and for all the rule by inhumane market forces, instead to institute efficient social mechanisms to ameliorate and manage this inherent frailty of human beings.

A Society of Communities

The study began with an in-depth examination of the much-contested paradigm of community. Prompted by Karl Polanyi's (2001) concern that 'free market' capitalism threatened to destroy the 'fabric of society', the first task of the study was to determine what constituted this 'social fabric'. Polanyi himself had described the traditional fabric of rural society as "the village community, the family, the old form of land tenure, the customs and standards that supported life within a cultural framework" (Polanyi, 2001, p. 303).

German sociologist Ferdinand Tönnies (1887; 2001) had earlier enshrined this traditional fabric of society in his concept of *gemeinschaft*. He modelled this on the historic village in which core relationships between people formed the basis of community. Tönnies contrasted his *gemeinschaft* 'community' with a description of *gesellschaft* 'society'. *Gesellschaft* is expressed in the transition to a complex urban or industrial context in which people are interpersonally alienated, linked by their roles in society rather than by social ties (Bradshaw, 2008).

The evident suggestion is that a development of a *gesellschaft* society would eclipse and displace a former *gemeinschaft* community. However, this study found that the 'fabric of society' in the form of *gemeinschaft* sub-cultures remained alive and well within *gesellschaft* modern industrial complex societies. This led to the proposal in this thesis of modern human society as being a *society of communities.* It is the *gemeinschaft* relationships within these sub-communities, properly, sub-cultures, that constitutes the 'cultural framework', and the binding 'fabric of society' that Polanyi was so concerned to preserve against 'free-market' capitalism.

Such a cultural framework has been described in this thesis as an 'egalitarian small-world network'. This was demonstrated by Stanley Milgram's 'lost-letter' experiments almost 40 years before small-world connections were understood. Milgram was able to demonstrate that on a global scale, individuals in human society are connected by an average of only six 'degrees of separation' (Buchanan, 2002). As has been demonstrated in this study, the 'fabric' of such a human society is capable of resisting all but the most determined assault by a militant capitalism.

Culture Interpretive Theory

The recognition of the importance of relationships within and across sub-cultural groups as the binding fabric in human society, led to the development of what has been proposed herein as CIT (Culture Interpretive Theory). The conceptualisation of CIT in this thesis began from the foundation of Tajfel's (1970) *Minimal Group Paradigm,* which illustrated how identifiable sub-cultures arise in a society. Julian Steward's (1972) *Theory of culture change* contributed to this conceptualisation by showing how through *cultural ecology* the identification of sub-cultures could be applied to the analysis and study of complex industrial societies. The Management discipline of *Organisational Culture,* as developed by Mayo (1934; 2004), Jacques (1952), Schein (1992), Hofstede (2001), and others, was also able to add an important element. Organisational Culture revealed how the unobservable mental programming of human culture is made manifest and open to interpretation through the observable behaviour, and the 'visible structures' of the artefacts of such a culture.

In summary, it has been here proposed that CIT is based on the interpretation, whether by direct personal observation or through accessing historical and ethnographic records, of the observable behaviour and visible processes of individuals, organisations,

and sub-cultures as they interact in a complex industrial society. This conceptualisation of CIT is the understanding and the process that has been adopted in this thesis to facilitate a meta-ethnographical synthesis of the interaction of capital and labour in the mining community of Broken Hill in New South Wales, and of the iron ore 'communities' of the Pilbara in Western Australia.

Kondratieff Long Waves

Economists have long been familiar with the concept of a short 'business cycle' of perhaps five to ten years duration as being a feature of the capitalist system. However, the idea that there may exist long wave economic cycles recurring every fifty years or so has been received by many with scepticism in the absence of any clearly defined mechanism to drive such cycles (Kelly, 2002). The proposal that these waves consist of a nominal 25-year upswing in growth, followed by a 25-year downswing characterised by recession has meant that considerable ingenuity has been exercised to discover what might promote such a regular periodicity. It has been thought possible that the apparent regularity may be an artefact of either methodology or timing choice, as it is generally acknowledged that there can be a substantial transition period between upswings and downswings. Equally, timing of transitions may be compounded by difficulties of interpretation between international differences of occurrence (Table 11).

Table 11. *Kondratieff long wave cycles. Adapted from Kelly (2002) with comparison of Author's interpretation.*

Adapted from Kelly (2002)	Upswings (Years)	Downswings (Years)		Length of Cycle (Years)
	Late 1840s – early 1870s (25y)	Early 1870s – early 1890s (20y)		45
	Early 1890s – WWI (22y)	WWI – WWII (25y)		47
	WWII – early 1970s (27y)	Early 1970s – present (26y)		53
Authors interpretation from: Blainey (1968); Dale (1976); Devine (2007); Kennedy (1978); Thompson (1966); Webb & Webb (1894)	**Capitalist (counter) - mobilisation**	**Worker mobilisation**		**Length of Cycle (Years)**
	1794 - 1834 (40y)	1834 – 1848 (14y)		54
	1848 – 1888 (40y)	1888 – 1892 (4y)		44
	1892 – 1930 (38y)	WWI – Depression WWII	1930 – 1985 (55y)	93 (occulted cycle during Depression?)
	1985 – 2022 (37y)	Not yet evident		37 (to date)

Kondratieff waves have been most readily distinguished in price data but have also been found in production and rate of profit data. Kelly (2002) listed three broad schools of thought on mechanisms that might account for the existence of long waves. These were: fluctuations of investment; technical innovation; and class struggle. He expressed scepticism that either investment rates or innovation would be likely to adhere to a long and regular cycle of themselves, and instead put forward a theory that "alternating periods of worker mobilisation and employer and state counter-mobilisation" might be the mechanism accounting for the existence of long waves (Kelly, 2002, p. 86).

As stated earlier, in the summary of Chapter 5, a contribution of this research is to support Kelly's proposition of mobilisation theory as a possible driving mechanism for long waves. On the observations of previous researchers that have proposed fluctuations in either investment rates or technological innovation as possible driving mechanisms, it is thought entirely possible that rather than being primary driving

mechanisms for long cycles, these may instead be secondary effects generated by the mobilisation and counter-mobilisation described above. One contemporary example of this is the recourse by Australian mining companies to vehicle automation technology from 2008 as a direct response to the militant union mobilisation of the 1970s and 1980s.

One of the challenges to the credibility of long wave theory is how the waves should be timed. There is no consensus on how to measure the onset and end of each upswing and downswing (Kurki, 2019), and indeed, no inherent reason why the upswings and downswings should be of approximately the same nominal 25-year duration. The example of mining automation above illustrates the difficulty involved in differentiating the attribution and timing of the cause and effect of long waves. A further example is found in the onset of the fourth Great Cycle that, although signalled by the emergence of neoliberalism in the 1970s, did not result in an unequivocal shift in the balance of power until the mid-1980s. Another challenge, noted by Kelly (2002) is how to account for the missed cycle between the two World Wars. Kelly has suggested that such a phenomenon may be reflective of a common weakness in both companies and unions during the Depression years. At least in Australia, this could also be at least partly attributable to the actions of the arbitration system which was in force for most of the 20th century.

In researching the data used to construct the Author's interpretation section of Table (11), the length and timing of upswings and downswings were disregarded, to focus instead on the timing of actual, and as far as possible, unequivocal changes in the balance of power between capital and labour. This, it is believed, provided a more accurate determination of the beginning and ending of long waves. One final thought on the existence or otherwise, of long waves is that according to the theory, and to the data in the above table, the end of the current cycle of capitalist ascendancy is fast approaching.

Polanyi's Double Movement

Karl Polanyi, in addressing the threat of market capitalism in *The Great Transformation* in 1944, proposed that market societies were constituted by two opposing forces. On the one hand, the *laissez-faire* attempts to expand the scope of the free market; and on the other hand, a resultant protective counterforce that

spontaneously emerges as elements in society move to prevent the attempt to establish such a market. Together it was these two that constituted the 'double-movement'. The emergent protective counterforce Polanyi described as being:

> … those most immediately affected by the deleterious action of the market – primarily, but not exclusively, the working and landed classes – and using protective legislation, restrictive associations, and other instruments of intervention as its methods. (Polanyi, 2001, pp. 138-139)

This study has shown that the collective action of the working-class has been instrumental in countering some of the worst excesses of market liberalism, as capitalist employers have sought to reduce worker's wages and conditions. Protective legislation has also played its part, notably in Australia with the institution of the arbitration system to set minimum wages. However, since the resounding collapse of the trade union movement in the late 20th century, and the resurgence of market liberalism, it would appear unlikely that any double-movement against the free-market ideology currently threatening Western society will arise from within the ranks of the former working-class. This leaves the State as the only remaining entity with the capacity to enact protective legislation as a double-movement to shield 'the fabric of society' from the destructive forces of unrestrained market capitalism. On present indications in Australia, as in the rest of the industrialised world, this appears as a remote possibility, but, as previously stated, it is highly probable that change will soon be forced upon the State.

Limitations of the Research

As any ethnography is, by its nature, a personal interpretation, a meta-ethnography cannot but be an interpretation of interpretations. In this, it shares with other qualitative research methodologies both the strengths and the weaknesses inherent in any attempt to understand social or cultural events based upon the lived experiences of the people being studied. The strength of a meta-ethnography lies in the 'constant comparative analysis' that is undertaken by the researcher as key themes and lines of argument are identified and compared across the source 'ethnographies'. A perceptive analysis during this process has the potential to elicit a higher-order understanding than that evident in any of the sources. As in all qualitative research, however, success rests entirely upon the experience and ability of the researcher, and the result, however valuable, will always remain an interpretation of the author.

A further limiting factor of the research will be evident in Chapter 8, which, following Research Question 3, explores possible future implications for society of a continuation of the capital-labour conflict. In the confessed absence of any clairvoyant ability, this necessarily conjectural discussion is based on an in-depth study of the history of the conflict between the two classes, from the origins of industrial capitalism in the 18th century until the present day. That study has revealed that there have been just two occasions in history when a so-called 'free-market' in labour might be said to have existed.

The first occasion, discussed in Chapter 3, was towards the end of the 18th-century when the handloom weavers of Northern England were reduced to penury by the merciless practice of capitalist entrepreneurs beating their wages progressively below subsistence level. This wretched situation continued until the formation by workers of collective trade unions from 1834 began slowly to reverse the trend. The second occasion of the establishment of a 'free-market' in labour can be argued to have begun with the introduction by the Keating Labor Government of an 'enterprise bargaining' system for wages in 1992, which was the thin end of a wedge to replace the centralised wage-fixing system based on arbitration. It was Karl Polanyi's contention that such a free market in labour could not exist for any time without destroying the human fabric of society.

Since 1992 there has been a progressive domination of the unions and a 'beating down' of workers' wages by capitalist entrepreneurs. In a mining industry that has so often led the vanguard on industrial relations, this is perhaps best exemplified in the present covert movement by the Eastern Australian coal mining employers to reduce workers' wages by replacing permanent workers with lower-paid labour-hire casuals. There is evidence that the Morrison LNP Federal Government has been complicit in this action in yet another example of what Kelly (2002, p. 124) described as a "state and employer counter-mobilisation of the type which has occurred at regular intervals throughout the history of capitalism". With a compliant government and a decimated union movement, there is little to prevent a repeat in the 21st-century, of the same destruction of the human fabric of society that was visited on the handloom weavers of 18th-century England by capitalist entrepreneurs.

Future Research

Machines with enhanced 'deep-learning' capabilities are increasingly demonstrating the capacity to displace humans in the workplace. Once this has occurred to a sufficient degree it is unlikely, given the comparative inefficiency of human workers and their obvious susceptibility to future pandemics, that these lost jobs will ever return. It is evident that as the resulting 'disemployment' multiplies throughout the former workforce, the current wage-based system that has been the principal means of distributing the wealth of society for the last 500 years must eventually founder.

A Post-market Economy

Future research, therefore, could profitably be directed towards discovering an alternative system to distribute the machine-produced wealth equitably across society. It seems likely that such a system would more resemble the ancient feudal system of 'custom and exchange', than the current system which is based upon competition and greed. The only proposal that is presently being even remotely considered is some form of Universal Basic Income (UBI), which would seem to possess all the shortcomings of the Speenhamland enactment of 18th century England so lamented by Polanyi (2001). To ignore the need for such research is to invite a repetition of the extended period of social disruption and deprivation such as attended the land enclosures that signalled the end of the feudal system of medieval England.

Long Wave Theory and Polanyi's Double-movement

The findings of this current research have supported Kelly's (2002) contention that mobilisation theory could account for the mechanism that produces long wave economic cycles. The observation that Kondratieff long waves appear to be aligned with changes in the balance of power between capital and labour infers that there may be more than a passing connection between long wave theory and Polanyi's double-movement that would benefit from further study. If such a connection were to be demonstrated, it would put long wave theory on a much firmer theoretical foundation than has been the case to date.

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Appendix 1. Broken Hill chronological table

	Dale, 1918	**Blainey, 1968**	**Kennedy, 1978**	**Koenig, 1983**	**Journal Articles & etc**
1884			Barrier Ranges Miners' Association formed at Silverton "to promote the mining interests of the silver fields by the close union and cooperation amongst the classes … the absurd antagonism which sometimes appears to exist between labour and capital was positively to be avoided by all"	The BH union movement born at Silverton Sept 20th, 1884 … public meeting at Adelaide Club hotel resolved "miner's assoc. to be called the Barrier Ranges Miner's Association" … July 5th, headquarters moved to BH.	
1885		BHP floated into a public company June 1885. Difficult overland routes from Sydney of 900 miles … or by steamer to Adelaide 1200 miles then overland 2 days & nights.	Silverton more egalitarian … the struggle for existence linked men together … the hub of Barrier unionism moved to BH … Robert Griffin militant secretary. Survey of April 1, 1886 showed BH had 23 houses, 15 huts, 30 tents, 3 hotels, a store, 2 smithies, and various sheds & stables.	First BHP smelter blown in, May 6th, 1886. Carbonate of lead was the most plentiful ore at BH in the early days … lead-rich dust carpeted the town … SA extended the narrow gauge rail to the border … Silverton Tramway Co extended the line to BH in 1886.	
1887		W H Patton recruited from Nevada … most expensive manager … repaid his salary many times over in 1st year. Silverton Tramway opened in early 1888. Forty-seven hotels in BH … dominance of single men	By Oct 1887 BH population of 4-5K had outstripped Silverton, pop. declined to 1695. Rumoured in late April that BHP was contemplating introducing contract … American managers sought … hostility to Sydney … typhoid 1/3 of deaths	Patton (BHP) introduced the square-set timber method in 1888. Maze of timber became a fire hazard.	
1889 Union membership	Union membership drive … "the usual skull-dragging" … many refused … Strike on Nov. 7th lasted until 15th Nov … booming market – directors recognise compulsory unionism … "infringement on the sacred	"Knowledge of how to minimise lead poisoning, and even how to diagnose it, was still imperfect. How many people died from an overdose of the lead is unknown". Symptoms include lassitude; loss of appetite; weakness of hands, spreading to	Richard Sleath elected president of AMA … proposed establishment of 'closed shop' … 2500 of 3000 men were unionists … hard core unionists were the underground miners … united community behind union … in the first 6 months of 1889 more than ¾ of union's	Miners' union claimed 2,200 members of 3000 employed at BH … First strike for union recognition … management agreed to collect dues … several non-unionists tarred & feathered.	

	rights of the master class" – would not be tolerated long	shoulders and legs … effect on nervous system.	expenditure was accident & funeral benefits … November strike … directors visited the field and agreed to closed shop … Sydney police caused bitterness,		
1890 Falling market	The Great (Australian) Maritime Strike. AMA sent financial assistance. Mine managers were ordered to close the mines "with a view to cutting off supplies to strikers". Men ceased work Sept 8th. Agreement reached Sept 25th for return to work with reduction in hours from 48 to 46. Four-point agreement signed allowing for arbitration of future disputes … living conditions 'frightful'	"Even a fall of one farthing an ounce was enough to reduce the annual profits by thousands of pounds, and the fall of silver was heavy". The sulphide problem, and 'the creep' in the early 1890s. 46 hr week after a short strike in 1890. BH population 6000 Stephens Creek dam & pipeline built.	BHP directors concerned "nation-wide strike amounted to open class war" … supported the pastoralists & employers "in a series of hasty & provocative measures" … instructed managers to close BH mines … agreement to return to work for 46 hr wk, & arbitration. Workers becoming class-conscious, with interests separate from companies.	Year of disquiet in Australia … Maritime strike … stockpiles of ore built up; Oregon timber could not be imported … managers decided to close mines … union called strike on Sept 10th … second industrial agreement 3 wks later saw 46 hr wk and arbitration for future disputes.	
1891	Defeat of the maritime strike and the Queensland shearers in the "Freedom of Contract" brawl inspired a greater degree of confidence in the mining magnates.	BH population 20,000. Govt appointed committee to report on lead poisoning … mine managers welcomed the investigation … committee hearing evidence on the eve of the 1892 strike … was lead poisoning one of the hidden grievances underlying the long strike of 1892?			
1892 Falling market; sulphide problem	Two diggers "victimised". Sleeping on shift. May 17th notice received from mines that they were introducing contract. Notice of termination ("violation") of agreement sent to AMA effective 30th July. Directors "looking for excuse to force a	Due to fall of silver and the sulphide problem, mines had to reduce costs. Pay was not cut as depression began. More men employed than needed. "Companies did not want a quarrel with union" … by introducing contracting men could make more money and	Dismissal of unionists … "Plumbism is a frequent cause of serious illness here" … companies opposed investigation … AMA warned "supply of labour exceeds demand" … typhoid became epidemic … pool of unemployed in Melbourne … slogan "freedom of contract" … contracting introduced	Silver & lead prices fall … companies decide to terminate 1890 agreement & introduce contract … 6k miners' strike on July 3rd … depression times … by Sept mines fully operating without unionists … strike collapsed on Nov 8th with	Osborne, 1973 … In 1892 mining companies showed their displeasure at the growth of labour organisations when they provoked a strike by violating the prevailing agreement with the unions … inflicted a shattering defeat on the unions and withdrew their recognition.

	strike". Men struck Mon July 4th. Manager Howell (BHP) requested Sydney police. Financial support from the town. Director John Darling promised to destroy the union. Police & scabs sent. Nov 6th strike declared 'off', union defeated through the "greed, dishonour and prejudice of the mine-owners". 3000 unionists still out of work by Christmas (blacklisted).	produce more ore (weakened solidarity of the union). "The bitterness of the revolt … does not make sense if it is simply seen as a protest against … contract mining". Strike from July 1892 … 18 weeks … Mines made most of their victory … wages reduced by 10% … under contract system 1 man mined as much as 2 had before the strike. Reform kept the weaker mines alive during the 1890s. Lead poisoning as one of the hidden grievances.	rather than wage reduction … Strike on. Community turned on the companies … Police magistrates personal association with the companies … strike leaders jailed … "free labourers" introduced from Melbourne … assaults; tents burned … Six months after the strike John Howell boasted "that we have extracted over 22,000 tons more of ore, with just under 40% less men". Wages reduced 1/10th. Open cut begun … men employed as sub-contractors of firms like Baxter & Sadler of Melbourne.	unions in disarray. Open cut began at BHP.	Jones (2011). Albert Morris … greening the landscape … mean annual rainfall 236mm; evaporation rate 2800-3200 p.a. … summer temps av 32C – regularly 40C Strong west & south-west winds bring dust storms … trees cleared ... regrowth prevented by rabbits.
1893		Uriah Dudley instrumental in founding Australian Institute of Mining Engineers. Moved to Adelaide in 1893. Most support from BH where leading men (Howell; Schlapp) members of American I of M E … Howell "my opinion … Australia may become the greatest mineral country in the world"	Deep divisions between miners and companies now a permanent feature of the town … none of the returning strike leaders found work … union two decades to recover power they had in boom years … ethic of unionism deeply implanted in the town.		
1894	Sleath, Cann, Ferguson & Thomas elected to labor seats. "Encouraged by their success in Broken Hill, Newcastle and Queensland … the capitalists considered the time opportune for a 'go' at … the AWU (shearers) … Freedom of Contract".	Smelters at BH began to close … all closed by 1898 … thousands of jobs transferred to Pirie, and to German and Belgian smelters.	Population declined during the depression as many left for the WA goldfields … apprehension for the future of the town replaced the optimism of the 1880s. Companies no longer recognised unions … membership fell to less than half.		
1895	Collapse of stopes in South Mine … 9 killed … Fire in Block 11 of BHP.	NSW did not pass a lead poisoning act until 1895 … by	Severe outbreaks of typhoid in low rainfall years.	Fifty percent of deaths recorded in 1895 were children under ten (leading).	

		then the main danger had passed. Alexander Stewart succeeded John Howell as BHP GM.			
1897		In year ending June 1897 the Proprietary employed an average of 2500 men, but in the same year 3100 men left the company's employment.	Number of accidents noticeably increased since the strike … Royal Commission into mine safety		
1898		Guillaume Delprat became BHP GM. Companies began experiments with magnetic separation of sulphide ores.	AMA president proposed apprenticeship system … BHP manager also favoured apprenticeship system … Barrier Truth local labour paper	June 1898 foundation stone of Trades Hall laid … union regaining its hold … system of weighing contract ore introduced as management not trusted.	
1901	Union gradually gaining strength … work slump. Mines closed for months. Mines attempt to offer reduced wages … apprenticeship system refused by men.	Lead price fell in 1900s … men employed fell from 7400 to 5000 … 1901-1903 the most pessimistic on the field. Town elected Labour mayor in 1900.	NSW Arbitration Act passed … Delprat president of the MMA (attitude to labour … 20 years working with a Spanish peasant workforce) … regarded AMA as a political society which most of the men do not approve of	Price of lead fell again … many mines closed … 2K of 6K miners belonged to the union.	
1903	Compulsory arbitration act … Judge Cohen declined wage increase, hours reduction as "companies could not afford it at the prevailing metal price".	"the testimony of experienced observers at the turn of the century was almost uniform in its praise of the company's willingness to adopt the safest methods" [of mining].	Only 2000 of 6000 men employed by the mines were unionists … Justice Cohen left wages and hours as they were.	Arbitration court introduced fortnightly contract for underground workers.	Osborne, 1973 … Court declined AMA claims and BHP's counter claim for a 10% wage reduction.
1906	Fires at the North & BHP … two killed … "master's property" rescued from the flames – way clear for more years of tyranny & exploitation … 12.5% wage increase … the Non-Political Union, 'a boss-fed affair'…	Chemist de Bavay developed a more efficient flotation process … thousands of nomadic workers stressed the importance of skilled organisation in the miners' union … during industrial trouble were more	Socialist propagandists a tiny minority, between 25 and 30. High metal prices … increased wages … NPU founded in late 06.	Award ended; unions asked for reduced hrs and wage rise. MMA offered 12.5% increase subject to lead remaining above £16 a ton … first increase in 13 years	Osborne, 1973 … Strike action suggested, but by personal diplomacy Delprat averted this … unions settled for wage rises of between 11 and 15%

	intimidation by the AMA led to collapse	likely to buy a railway ticket than a union ticket.			
1908	Agreement due to expire on Dec 31st. John Darling "if the industry was to continue, wages must come down". Tom Mann engaged to boost membership. BHP's Delprat withdraws from the MMA. Other companies continue negotiations. Men agree to continue under previous agreement. BHP, British, and Block 10 offer reduction.	… "the hierarchy of mines along the lode was reshuffled. The old giants were shrinking, and mines which had been midgets a decade previously were now large". BHP making no profit in last months of 1908. The coincidence that about half the men worked in marginal mines, and the other half in profitable mines … effect on industrial relations was costly.	A new preamble to the objectives of the AMA urged the workers to take "united political, and industrial action in the class struggle to overthrow capitalism … depression and unemployment struck in 1908 … townspeople willing & eager to listen to socialists … socialists and unionists of all persuasions had closed ranks against the common enemy, the Big Mine and its wily General Manager. …NPU dissolved Oct.	Mid 1908, 4k unemployed in BH … mines beginning to run out of ore … price of lead falling … John Darling (chair, BHP) wages to be reduced … rest of the mines agreed to continue 1906 award for 2 yrs … BHP, British, Junction and Block 10 withdrew, and mines closed	Osborne, 1973 … Lead price slump in Nov 1907 … John Darling … "Wages must fall" … All central block mines declining … unemployment … the appeal of the socialist argument for stronger industrial organisation rested on the local unions' unsatisfactory experience of legislative approaches to the problem of achieving better conditions … Tom Mann engaged to boost membership … BHP withdrew … privately committed to at least a temporary cessation of mining.
1909 Sulphide problem; market slump	BHP mine picketed (lockout). Police removed to barracks while scabs released from BHP. Darling calls for military. Police attack at change of picket … Tom Mann arrested. Protest march by 15K citizens … Mayor Ivey leading. "deliberate provocation by police". BHP remained closed. Strike off Mon 24th May. Bitterness at the Labor Govt. Wage agreement signed for 4.5 years. Threat to nationalise the British. Purchase of woodyard & bakery. Socialist Federation conference. BLF succeeds Combined Committee.	Mr Justice Higgins observed that a common cause of absenteeism was the "loss of night shifts from inability to sleep in (iron sheds) the hot days of summer". "BHP would have been wise to sign" (wage agreement). Delprat withdrew from MMA. The great mine was closed … call it lockout or walkout, the effect was the same. Strike pay from other mines still working. BHP closed for two years. All mine owners now officially classed as enemies. In 1909 Amalgamated Zinc (de Bavay's) built a successful tailings mill.	Delprat resigned as MMA president … succeeded by Hebbard (Central) … socialists led the striking workers … police baton charge … union wired the prime minister and the minister of defence asking them to call out the military to defend the peaceful citizens of BH against the unprovoked attacks of the police … camaraderie between police and BHP manager … violence against mine officials; engineered by Delprat? BHP left a legacy of bitterness … a major radicalising influence … in years immediately after 1909 the "Mecca of Unionism" attracted increasing workers committed to socialism who led the unions during WWI … "born rebels"	Police baton charge of pickets … 28 arrests incl Tom Mann … Big Mine closed for 2 yrs … Block 10 re-opened with higher wages June 1909 … unions and management polarised … growing prominence of the mines on the periphery. Contract miners earned far more than the average.	Mann, (1923). Committee representing 10 unions … "This experience of the admittedly most perfect Arbitration Court in existence, with a Labour Govt. in power, dampened any enthusiasm I might have felt for such an institution" … baton charge on picket procession … "reliance upon parliamentary action would never bring freedom"
1911		"In the first 35 yrs of production the BH companies produced	… "many … with ability and intelligence who never had the	1911 agreement allowed for 10% wage rise … BHP mines	

		metal worth £106 million … only one fifth went in dividends … the rest in pay packets, machinery, timber, coke and coal, railways and shipping"	opportunity to gain an education and they welcomed the chances for discussion … provided by the socialist associations of BH" …	absent from negotiations but agreed to pay the increase … mines re-opened … militant workers attracted to BH	
1912	Mine accidents this year – 385 … resolved to lose a shift for fatality.		May 1912, Capt. I. Doherty secures donation of £1000 from mine managers for a drill hall to 'train the boys of the Commonwealth Military Forces'.		
1913	Show of union cards at the Silverton tramway. Strike called for non-membership. Food shortages … mines close … Delprat effects settlement. Aug 15th shop assistants' union ceased work … low wages. AMA supported shop workers financially … members to boycott the shops. Shoppies drifting back to work … Return to work without success on Sept 22nd.	In 1912 the price of lead recovered and remained high. Workforce increased by more than 3K in 1909-1913. From 1909 some companies were more tolerant and tried to live with unionism. In mines less than 100 were outside the union.	Gepp (De Bavay's) led progress association to ameliorate living conditions on the Barrier. Hebbard & Gepp policy of concessions … moderating effect it would have on workers … AMA leadership was an insignificant proportion of the members … 1913-14 drive for compulsory unionism … union referenda indicate real differences between the committed leadership, and the less enthusiastic mass.		
1914	Mines closed, War starts. 4000 members out of work and leaving district. Govt relief paid. Mines resume on half time … Govt provides relief work on North Coast Railway. Mines resume in 1915.	After 1914 militants gained more power … they occasionally threatened non-unionists, boycotted shops, and slandered opponents. The men who had once been gagged now applied the gag. Royal Commission into mine danger produced little action from the NSW Labor Govt … overthrow capitalism!	New wave of militancy … "best way to get the system altered is to inconvenience the mine as far as possible" … in light of such comments it is easy to see why the miners became receptive to the ideas of the IWW … Royal Commission declines to abolish contracting; sets minimum wage; appoints mine inspectors … reforms halted by war.	Militant unions not happy with 1914 Royal Commission into mine accidents … Mining activities cut back by the war	
1915	Hotel & restaurant employees union. Employers attempt to	BHP mine was idle whenever the metal price was low.	Opposition to conscription … identification with IWW philosophy	Unions & management polarised into 2 camps … 1911 agreement	McNamara, 1999 … "unions do not do things openly in BH" …

	reduce wages …6 o'clock closing … White and black & 'magpie' card system introduced by AMA. 'Scabs' dismissed by employers and strike called off. Displeasure against 6 o'clock closing. Mines, four & a half year agreement due to expire … companies offer same rate to continue for duration of war. Underground workers decide alone to continue to miss Sat afternoon shift (most on contract). Metal values high.	"Labour relations at BH were unusually turbulent between 1909 and 1920, and when industrial peace was restored the mining companies had to pay a high price for it". BHP retreat was due to disillusionment with labour. Broken Hill Associated Smelters (Pirie) formed in May 1915. "It was in the companies interests to be more generous because enough grievances, real or exaggerated, existed" … "asked for more meat and bread … they produced the union jack" … hostility now fed on every provocation.	… opposition to conscription seen as support for the Germans … BH was now a community divided against itself, no longer united against common external threats … supporters of war – mine managers, clergy, schoolteachers, business people & newspaper … opposing the war – militant leadership of the AMA … companies played into the unions hands by offering too little, too late at a time of high & rising metal prices.	expired … unions claimed 44 hr wk … mines offered 1 shilling per wk …	AMA was later forced to pay over £2K in costs and damages to Mrs Egan for conspiring to deprive her of earning a living.
1916 Rising market; disease at the heart of the dispute	Strike over 44 hr week after underground men dismissed. Pirie declines support. Unpopularity of strike during wartime. "Munitions works" established by companies to turn public opinion … FEDFA continued working … Gen Sec of FEDFA absconds to BHP company. 44 hr granted by court … AMA to resist conscription … BLF succeeded by Barrier Trades & Labour Council … LVA formed to resist conscription (Brookfield) … baton charge by police … 'Blue Whiskers' union formed (3rd attempt at 'bosses' union)	8-week strike over dismissal of underground men … Justice Higgins delivers new industrial agreement … companies gave little thought to improving industrial relations, yet many possessed the money and the incentive to improve living & working conditions. No new agreement could be reached because of rifts between the companies, between moderate and militant unionists, and between mines and unions. Justice Higgins delivered pay rise and 44hr week to underground.	Brookfield on friendly terms with IWW … welcomed as fellow union … disenchantment with labor politicians … Labor's Volunteer Army (LVA) against conscription … 3 leaders arrested … baton charge by police. "Broken Hill has for years been accumulating the restless, discontented spirits of the Australian fields …" To be successful now, a union leader had to preach the class war, arouse class consciousness, and be a good hater of the capitalist enemy. Miner's attitudes associated with IWW: opposed to militarism and war profiteering; disillusionment with political or parliamentary solutions; predilection with industrial action & even sabotage.	Underground miners sacked … Strike lasting 8 wks … Justice Higgins brought new award … 44 hr wk; time & a half overtime … this was the last award made by the arbitration court in BH	Adams & Eklund, 2011 … Strike was a long & complicated dispute … Like the Big Strike a few years later, hours were important, but disease was the heart of the dispute. Ellem & Shields, 2002 … 44 hr wk only to underground increased tension over job demarcation.
1917	Barrier unions on strike (16 affiliated) August, in support	War profitable for BH companies … North & South	Collins House group held investigation into industrial situation		Ralph (2004). Collins House Group … in 1930s home to 53

Revolution is imminent!	of coal miners … mines shut down … baton charge by police … services withdrawn from SA police camp. Arrests at IWW meetings. Pirie men again decline to help.	paid dividends of 120% … new facilities provided at Pirie … labour upheavals mild at Pirie compared to BH during war. One problem at BH was that Pirie had one company, BH had 13 … North (W.M. Hyndman) & South (Molesworth Greene), the most profitable, were controlled by "old men".	(prompted by Gepp) … contributors admitted that companies & govt had neglected town & people … men donate more to hospital than companies … however a new generation of militants now led unions … "each regarded the other as natural enemy" … all companies, except BHP, agree to double hospital contribution. BHP declines to help purchase X-Ray machine		mining companies, as well as lawyers, stockbrokers agents and engineers.
1918		W E Wainwright (BH South) … "argued that union executives before 1909 were strong fighters, but they were not infected with the aggressive spirit which is today such a dominating factor" In 1918 the bitterness against BHP had extended to all the companies … Fairweather … thought it was pointless to blame the unions for pursuing narrow policies of self-interest; the companies were at least as selfish, and yet they could afford to be generous … Wainwright agreed.	Cyril Emery (British): "it would need to be a long strike" … opposed to 'kid glove' methods because "once BH men owned the earth, they would clamour for the moon" … years of isolation … had turned some managers into cynics or pessimists (Kerr-Siegel). Apocalypse was in the air as workers … read accounts of Russia's stupendous historic achievement … AMA belief in the imminence of revolution at BH … Bolshevik Consul active in BH in 1916-17		Fischer (2011). American protective league … when Bolsheviks seized power in Russia in 1917, an acute fear of internationalist socialist revolution engulfed Western Nations. O'Shea (2017) Australian protective league … "When the Australian ruling class embraced fascism" … authoritarian commitment to preserving the economic status quo, a willingness to embrace dictatorship over democracy …
1919 Health & Safety		The Big Strike; 18 mths. All mines closed … health & safety issues; TB & Phthisis … Chapman commission … Percy Brookfield held balance of power in NSW legislature during the strike … pressure on Premier Storey leads to Justice Edmonds "changing his mind" on 35 hr week.	Attempt to form One Big Union … divisive. Gerald Mussen "Imagining that policies that had worked at Pirie would also work at BH … Unions: "nothing less than the complete overthrow of capitalism" … Managers (Emery) refused to concede on hrs & conditions … Long Strike begins … Collins House took the lead & invited AMA to a conference … learned of importance of health matters …	1915 award expired June … cases not heard by arbitration court … AMA declared "Big" Strike on May 19th … health matters & conditions became the main issues.	Ellem & Shields, 2002 … inter-union rivalry contributed to the origins and course of the Big Strike. Eklund (1999). Pirie … BHAS, core group of Collins House … welfarism … helping to enshrine an ideology of management/worker cooperation.

			landmark in eventual settlement of the strike		
1920			Lead prices high … Underground men awarded 35 hr week … night shift virtually abolished … 2 wks paid holiday … wage increase … Barrier Industrial Council created … conditions improved in mines. World markets caused intermittent employment over the next 15 yrs … "much unemployment could have been averted by more realistic leadership from the unions" … "the vicious circle of bitterness survived" … lead bonus introduced in 1925.	Complex medical enquiry conducted by H G Chapman over 6 mths … role of Brookfield in parliament …" understand the root cause of the strike" … Judge Edmonds "changes his mind" … awards 35 hr wk … strike called off … compo for health issues … the heroic struggles were over & the town was about to enter upon its decades of self-regarding isolation …BH mines declared closed shop to outsiders … years of the war contributed to the decline of the young single miner … demographic turning point	Medical enquiry … Justice Edmonds awarded 35 hr wk, wage rise and improved conditions … strike ended Nov 10th, 1920, … Lead price decline … central and smaller mines begin winding down.	Ellem & Shields, 2002 … first half-century town experienced 4 distinct cycles of union growth, decline and renewal … union development shaped by 4 key factors: the globalised scale and cyclical nature of the metal industry; the importance of labour migration and worker itinerancy; the paradoxical agency of the state; the occupational and spatial divisions between local workers themselves.
1921			"Labour relations at BH were unusually turbulent between 1909 and 1920, and when industrial peace was restored the mining companies had to pay a high price for it" … communist party appeared … one big union … disappointment of the Russian Revolution … rivalries among the radical [labor] leaders	1921 marks a high point in the story of BH. The long haul of the Big Strike earned the best industrial conditions in the commonwealth …		
1924					Trades & Labour Council becomes Barrier Industrial Council … Paddy O'Neill becomes first president until 1949 … died 1953 … MMA is the other half of the story … dominated for years by BHP … Collins House mines gradually healed the breach, keeping BH almost strike free for 60 yrs.	

1925		The round table conference began to replace the strike and arbitration when disputes arose … lead bonus introduced		Jan 14th , BIC met directors at Collins House … lead bonus agreed upon for non-strike period.	Shields, 1997 'Lead Bonus Happy' … unions began to reassert control over labour market … job committees emerged mid 1930s (communist inspired) … go-slow tactics to increase contract rates … defence of staffing levels "two men, one machine" … contributed to the closure of BHP and Central.
1932				At the height of the Depression the union ruled that only men born in BH or lived there 10 yrs could join the union & work in the mines … extended in 1950 to include those living within 300 mile radius of BH.	Jones (2011). Albert Morris … greening the landscape … Zinc Corp. managing director W S Robinson saw value of tree planting … green belt plantings aided by ZC
1943					Shields, 1997 … Wartime labour shortages reinforced bargaining power … major gains in pay and conditions … war loadings, OT rates, lead bonus cap removed, extra weeks leave … contributing to a lower output per employee.
1950s					Shields, 1997 … Management gradually regained balance of power … metal prices downward dropped lead bonus … productivity levels improved sharply as a result.
1960s				In 1962 Consolidated Zinc merged with Rio Tinto to become Conzinc Riotinto of Australia (CRA).	Shields, 1997 … Metal prices up … unions again gained the bargaining edge … tonnages per employee stagnated despite technological change … management responded to "go-slow" tactics by suspending lead bonus … management fear of

				provoking a long dispute while metal prices high
1970s				Shields, 1997 … mechanised long-hole stoping in Conzinc Rio Tinto mines … 1K jobs shed … unions weakened by new work practices … set the scene for successful offensive by CRT in 1986 against shift-work practices.
1986				Flynn, 1988 … "The unions were caught off guard in this dispute. Not only did their 'partner' in Feb. 1986 *serve them* with a log of claims, instead of *vice-versa*, but the action was taken during the currency of an agreement, six months before the unions were due to serve a log of claims … "No longer may the law be thought irrelevant to BH disputes.

Appendix 2. Pilbara chronological table

Date	Broken Hill	Hamersley Iron (CRA)	Mt. Newman (BHP)	Robe River
1962	Conzinc Riotinto Australia (CRA) succeeds Collins House companies at BH (Shields, 1997).	"Until the end of the 1960s … we really didn't have IR problems as such. It was a straightforward master-servant relationship … accepted by both sides … everyone was just there to get the job done" (Swain, 1996, p. 193)		
1972	Roderick Carnegie becomes Chief Executive of CRA – begins restructuring of company management in 1979 (Hearn-McKinnon). Instigates 'benchmarking' at BH, comparing labour costs with the US (Lynch,)	Management policies in all three Pilbara companies in the 1970s had been aimed to creating a non-conflictual work environment … they failed in all three companies (Swain, 1996, p. 135).		
1979		May 1979, unions presented a log of claims to the company … claims were rejected, and the company lodged counter-claims, (itself a novel step) (Ellem, 2017, p. 67). After a 10 week strike the company decided it had to take back the right to manage (Swain, 1996, p. 195)		Between 1972 and 1979 staffing levels increased by 63% as management lost control of staffing decisions … under Peko wage employees were reduced from 1250 to 620 and staff reduced from 415 to 390 … productivity was doubled (Swain, 1996, p. 356)
1981		From 1981 a strategy was developed to isolate the convenors from the Commission and state union officials (Ellem, 2017, p. 73). Focus has been on empowerment of line supervision since 1981 (Swain, 1996, p. 139)		
1986	Feb. 1986, CRA serves BH unions with a log of claims, threatening to shut their mines (Flynn, 1988). North Broken Hill follows suit.		BHP gains controlling interest in Mt Newman (Ellem, 2017). Company policy was to create a web of rules which delivered power to convenors and Commission, preventing line management from interfering. (Swain, 1996, p.121)	July 1986; Peko replaces managers and notifies union of withdrawal from agreements (Smith & Thompson, 1987). August 1986; Peko Wallsend management locks out its workforce (Ellem, 2015). December 1986, Peko files writs for damages against unions in the Supreme Court (Swain, 1996, p. 282)

1987		1987 award. Company serves a log of claims on the unions to give management effective control of work processes (Swain, 1996, pp. 100-1)	
1988			The crisis of 1988 … disruptions caused by bans and stoppages (Swain, 1996, p. 334)	North Broken Hill Ltd acquired Peko's interest in Robe (Swain, 1996)
1990			By the mid-1990s BHP was the only unionised operator in the Pilbara. In the late 1990s BHP engaged a series of high-profile CEOs from outside Australia. BHP offers WPAs to its workforce in 1999 (Ellem, 2017).	
2000				Rio Tinto purchased a controlling interest in Robe (Ellem, 2017).
2004		By 2004 the two big companies had contained if not eradicated the union revival (Ellem, 2017, p. 161	
2008		Global economic crisis (Ellem, 2017, p. 181)	
2012		Chinese market slowdown (Ellem, 2017, p. 181)	

State of abandon: The role of governance in the recurrent and cyclical nature of class conflict in the lives of mining communities in Australia

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State of abandon: The role of governance in the recurrent and cyclical nature of class conflict in the lives of mining communities in Australia

Abstract

Taking the mining industry and associated communities as proxy for industry development as a whole in Australia from the colonial period to the present day, this study examines the socio-cultural and economic reasons behind the observed recurrent nature of class conflict in the industry over this time. Industrial capitalism, birthed in the land enclosures and Industrial Revolution of Great Britain is inherently unstable, being prone to cycles of 'booms and busts'. Since the early advent of unions in Australia, these cycles have seen power ascendency alternately pass between capitalist elites and workers. With society composed of unpredictable and emotional individuals in continually evolving social structures, this work-in-progress-study attempts an explanation for this recurrent and cyclical nature of class conflict.

Key Words

Mining communities; elites; unions; class conflict.

The Australian mining industry today makes a substantial contribution to the economy of the country, totalling 54% of exports in 2016-17, valued at A$198 billion (Minerals Council of Australia, n.d.). Being a significant contributor to the balance of trade from colonial times to the present, the mining industry along with associated communities presents as a useful proxy for understanding the broader sphere of economic, socio-cultural and industrial activity in Australia over this time (Eklund, 2015; Martinez-Fernandez, Wu, Schatz, Taira, & Vargas-Hernandez, 2012). In the nineteenth century, all of Australia's inland cities were mining cities. Wealth flowing from the early gold discoveries across Victoria made Melbourne the largest coastal city in the land for half a century (Blainey, 2003). Today, long after the gold rushes of the Eastern States have passed into memory, emphasis in mining has shifted to the mineral-rich states of Western Australia and Queensland.

There have been many published case histories examining the factors contributing to the economic development trajectories of individual communities servicing the Australian mining industry (Cooper & Ellem, 2008; Ellem, 2003, 2006; Jones, Marshall & Mitchell, 2007; McDonald, Mayes & Pini, 2012; Sadler, 2004). Few researchers, however, have attempted an examination of the continuity and recurrence of such factors, from historical antecedents, through colonial times, and up to the present day. A review of the literature has revealed the following omissions: (1) The lack of investigation into the socio-cultural and economic factors that contribute to *class conflict* in the development trajectory of mining communities in Australia; (2) The lack of investigation into the socio-cultural and economic factors that contribute to class conflict in the development trajectory of mining communities in Australia *over time*, and (3) The lack of investigation into *the cyclic recurring nature* of the socio-cultural and economic factors contributing to class conflict in the development trajectory of mining communities in Australia over time. Accordingly, this paper sets out to explore the reasons behind the recurrent nature of class conflict by an analysis of class relations in the mining industry in Australia from colonial beginnings to the present.

SCOPE OF THE STUDY

Colonial mining

The first discoveries of gold in Australia were predominantly alluvial fields, easily worked by small groups or individual miners. After exhaustion of the alluvial gold, the focus of both gold and base metal mining in Australia turned to concentrate on deep lode mining (Lennon, 1989). Shaft sinking and crushing of the mineral-laden rock required capital resources beyond the capability of small groups of miners, necessitating the formation of companies and the employment of wage-earning miners. The longer-term nature of deep lode mining saw the ephemeral, tent-dwelling, predominantly male communities of the alluvial fields give way to more substantial settlements as firstly bark, and later galvanised iron and timber huts sprang up in an often-sprawling township close to the mine workings (Bell, 1984). With wage miners earning a reliable income, more women were encouraged to join their menfolk, adding a civilising touch to the life of the developing towns.

Despite the regular income and the more settled community life however, the egalitarian spirit that had been a mark of the alluvial fields did not endure long in the company towns. A typical company structure with absentee city shareholders and a local mine manager, employing a workforce of wage-earning miners set the scene for a class conflict between capital and labour that has since become a predictable and recurrent theme among mining communities across Australia, persisting to the present day.

Contemporary conflict

In the current economic climate in Australia, there is a widespread disillusionment in the mining workforce, with market-driven neo-liberal policies contributing to inequality, insecure work and stagnant wages. This deterioration in working conditions, having its genesis in macroeconomic policies instigated by successive Australian Governments since the 1970s

(Kelly, 1994; Lloyd, 2002; Woodward, 2005), is just the latest chapter in the ongoing class conflict between capital and labour since capitalism displaced feudalism as the dominant culture in the eighteenth century.

The birth of industrial capitalism

Tracing the socio-cultural factors behind this recurrent class conflict, this study will begin with an examination of the land enclosure movement, first evidenced in Tudor England (Polanyi, 1944). The resulting dispossession of the agrarian populace not only precipitated a landless class of unemployed but also allowed for the 'primitive accumulation' of capital (De Angelis, 2001; Marx, 1867), paving the way for the Industrial Revolution. Although widely seen as a cruel and heartless eviction, or 'a plain enough case of class robbery' (Thompson, 1966, p. 218), the enclosures, by creating a workforce where none had existed before, made possible the present era of industrial capitalism which has been responsible for periods of prosperity and affluence entirely unknown under previous regimes (Lazonick, 1974; Shaik, 2016). There was little prosperity, however, for those immediate generations of the evicted (Patriquin, 2004; Thompson, 1966), and it is only the passage of time and the callous indifference of capitalist elites to the plight of 'the other' that has veiled from view the hopelessness and dependence that attended those masses of the common people cast aside in the pursuit of progress and accumulation.

Research Question

The motivating principle behind the system of capitalism that kick-started the Industrial Revolution is *profit*, which is created by the simple expedient of rewarding workers as frugally as possible, while at the same time requiring them to maximise their production (Bonacich, 1972). In pursuit of profit, the industrial capitalist system has shown itself to be prone to experiencing 'boom' times, followed periodically by unpredictable downturns or 'busts' (Patriquin, 2004; Shaik, 2016). The Great Depression of 1930 being such a bust, in which the echo of those lost generations of the enclosures might still be discerned. An examination of this unvarying theme, observable in industrial capitalist mining communities in Australia from historic times to the present, will ask the question: *Given that society is composed of unpredictable and emotional individuals acting independently in evolving social structures over long periods of time, what explanation can be found for the recurrent and cyclical nature of class conflict in the development trajectories of mining communities in Australia over this time?*

Early Mining Communities: 1841-1851

The settler society of Australia was a scion of the British establishment (Lloyd, 2003). Despite this heritage, the subjection of the working classes to the elites was eroded early in settlement history by the relative scarcity of workers compared to overcrowded England (Collins, 1985; Lennon, 1989; Strikwerda, 1999). This labour shortage was compounded by the gold rushes of the mid-nineteenth century as the diggers left en-masse for the goldfields, with the government powerless to keep them at their 'jobs' (Blainey, 2003).

Bound for South Australia

South Australia, although rich in copper, turned out to be the poorest Australian colony in gold, losing thousands of men to the goldfields of the Eastern States in 1851. Ironically, despite being the last of the colonies to be settled, it was South Australia that produced the first base metal mines (Blainey, 2003). The proximity to the Port of Adelaide of the first exploited lodes of silver-lead in South Australia in 1841 made them just barely payable, until the discovery of rich copper lodes at Kapunda in 1842. Further discoveries at Burra-Burra in 1845 provided a welcome export income to the otherwise cash-strapped colony. With more rich copper deposits being found at Wallaroo, Moonta and Kadina on the Yorke Peninsula, the 1870s saw South Australia replace Cornwall as the largest copper producing region of the British Empire (*Ibid*). Cornish miners, impoverished by the 1837-45 trade recession in Britain

(Stephens & Roderick, 1971), migrated to the new discoveries in South Australia in their thousands.

The Cornish 'tribute system'

Along with their mining skills and their Methodism, Cornishmen brought with them a system of mining known as 'tributing'. In a tribute system the mine 'Captains', as Cornish mining foremen were known, would mark out previously exposed sections of underground ore bodies or 'pitches'. On a given day these pitches were offered to assembled groups of miners to be worked on terms proposed by the company. A pitch thought to be poor might be offered at a rate of return of ten shillings to the tributers for every £1 value of mined ore, while a more promising pitch might be offered at only a few shillings per £1 of mined ore. If more than one group of miners wanted a particular pitch, they bid for it, with the successful group being the one that offered to mine for the lowest return per pound (Blainey, 2003; Price, 1888; Yamanaka, 1985). The tribute system worked as admirably in South Australia as it had for centuries in Cornwall. Tributers were effectively their own 'bosses' and those that struck a lucky pitch could enrich themselves enormously. Mine owners and shareholders didn't mind this at all, as they too were proportionately enriched by this good luck, and the windfall only encouraged other miners. On the other hand, if the pitch turned out to be poorer than thought, the miners might make less than wages. If sufficiently poor, the pitch might be abandoned, allowing the company to offer it again at a more attractive price. The tribute system effectively spread the financial risk inherent in mining between the mine owners and the workers (Yamanaka, 1985). The fact that every group of tributers was in competition with his fellow miners in bidding for a pitch meant that industrial relations disputes were uncommon in the South Australian Cornish mining communities, lending a further dimension to the class conflict discourse.

Little Cornwall

This relative industrial harmony contributed to the mining communities of Moonta and Kadina on the Yorke Peninsula becoming the largest towns in South Australia outside Adelaide, and the largest Cornish settlements outside Cornwall. (Blainey, 2003). With their Methodist faith, the Cornish were ardent churchgoers. Moonta alone required at least sixteen churches to service its over five thousand people, and religious revivals were not infrequent. After settlement of a rare industrial dispute in 1874, four thousand people gathered in a circle at Moonta and offered thanks to God, with fine Cornish voices raised in a stirring Wesleyan hymn (*Ibid*). Today, long after the last copper mines and smelters have fallen silent, many South Australians reflect this proud Cornish heritage, being distinguished by surnames such as 'Evans', 'Elliot', 'Glasson', 'Hawke', 'Johns', 'Lyon', 'Nankervis', 'Pengelly', 'Phillips', 'Trewartha', and 'Truscott' to name just a representative few.

Rallying the Workers

By the 1870s the increase in company mining in Victoria led to intensifying union activity. W.G. Spence led his Creswick Miners into a merger with the Amalgamated Miners Association, becoming its general secretary in 1882, and leading numerous successful battles over wages and conditions (Spence, 2013). The formation of the Trades and Labor Council (TLC) in Sydney in 1871 gave at least a vestige of permanence to the fifteen or so unions then operating in the premier colony. Prior to this, unions had experienced a rather ephemeral existence (Nairn, 1989). Some indication of the difficulties faced by unions trying to organise in a British colony in these early years can be exemplified by the case of the 'Tolpuddle Martyrs', a group of six English labourers who as recently as 1834 had been sentenced to transportation to Australia for attempting to form a union (Thompson, 1966). The early successes of unionism in Australia have been attributed to the relative shortage of labour, which became acute after convict transportation to the Eastern States ceased (Nairn, 1956).

Under the capitalist system, scarcity has always commanded high prices with the price of labour being no exception, so that by 1890 the Australian worker had won conditions and

wages unachievable back in the home countries (Howard, 1977; Maddock & McLean, 1984). This situation suffered a reverse during one of capitalisms periodic 'busts' in the 1890s. A world recession at this time was further compounded in Australia by severe drought (Butlin, 1958; Merrett, 1997, 2013), hitting Australia's commodity-based export income particularly hard. Speculation and over-investment in Australia through the 1880s had created an 'asset bubble', particularly in Melbourne real estate, as investors rushed to cash in on the boom. Banks lent money with abandon, until the inevitable free-falling asset prices signalled the end of the boom, triggering widespread failures of banks in 1891-1892 (Merrett, 2013).

Birthed in violence: the political turn

Employers took opportunity during the resultant shortage of work, to mount a ruthless campaign to break down the hard-won conditions and wages of the working class, aided and abetted by government and police. The unions proved unable to counter this orchestrated attack despite the series of great strikes of the 1890s, in which the possibility of armed violence and even civil war were an ever-present threat (Spence, 2013). Prompted by this demonstrated powerlessness in the face of such concerted opposition the labour unions sought redress through the political system by forming the first Labor Parties in Australia (Archer, 2007; Howard, 1977). This proved a significant milestone in the evolution of class conflict, as the labour movement sought to counter the collusion between capitalist elites and government.

The 'Australian Settlement'

At Federation in 1901, the Australian Nation was founded, in the words of Kelly (1994, p .1) 'by practical men striving for income, justice, employment, and security'. Avoidance of a repeat of the threatened class warfare of the 1890s was subsequently sought by these practical men, through agreement between the three political parties then existing, along with manufacturers, and organised labour (Woodward, 2005). The policies that emerged from this agreement, the principal architect of which was Alfred Deakin, although never formally defined have been coined by Kelly (1994) as the 'Australian Settlement'. Summarised by Kelly under five headings: 'White Australia, Industry Protection, Wage Arbitration, State Paternalism, and Imperial Benevolence', this remarkable collective agreement was largely successful at underwriting industrial peace and class cooperation in Australia for well over half a century, until the globalising world of the 1980s found it wanting (Kelly, 1994; Lloyd, 2002; Woodward, 2005).

Mining Communities: The Historic View, 1870-1919

The development of deep lode mining as the surface alluvial deposits were exhausted contributed to a shortage of labour as skilled underground miners became highly sought after, again allowing them to secure favourable wages. Mining towns sprang up in often desolate and remote surroundings determined by the location of mineral lodes. Towns such as Broken Hill in New South Wales, established in 1883, and Irvinebank in North Queensland in 1884, had to provide all the necessities of life for a workforce of miners employed in the sole industry in town, the winning of minerals from deep in the earth.

Jack and his master

Living and working conditions in general in the late nineteenth century were harsh, primitive and often dangerous, and the mining towns of Broken Hill and Irvinebank were no exception. Despite this, both of these communities enjoyed an egalitarian spirit in their early days, with little evidence of class conflict. The stated objective at the formation of the Barrier Ranges Miner's Association in Broken Hill in 1884 was 'to promote the interests of the silver fields by the close union and cooperation amongst the classes', and to avoid 'the absurd antagonism which sometimes appears to exist between labour and capital' (Kennedy, 1978, p. 19). At the tin-mining town of Irvinebank, similarly, this egalitarian spirit was in evidence in 1890 when the entire workforce of the community wholeheartedly volunteered their labour to

Mr John Moffat, proprietor of the Irvinebank Mining Company, to rebuild the company dam which had burst during the wet season of that year. This was acknowledged as 'a great effort of cooperation in a time of emergency', which saved Irvinebank in an hour of financial constraint (Alexander, 1954, p. 3).

Why these mining communities experienced little evidence of class antagonism during their formative years poses a question that this research will endeavour to answer. Both settlements went on to endure recurrent acrimonious industrial disputes between working-class and management in later years, which in the case of Irvinebank, resulted in the premature collapse of the Irvinebank Mining Company. With an Australian 'disrespect for Britain with its traditions of non-democratic privilege' (Garnaut, 2002, p. 3), a possible answer might be found in the egalitarian ethos that was fostered during the gold rushes. On the goldfields, men worked claims as individuals or in small groups, and found that 'Jack', left to himself, was every bit 'as good as his master'. At Broken Hill and Irvinebank, early arrivals responding to the news of 'new strikes' would have hoped to repeat the experience of the goldfields by pegging a claim on which to establish their fortune, only to find that the logistics of hard rock mining consigned most of them as 'wages men' in a company structure, with the 'master' firmly in control. As mining work progressed further underground, the increasingly dangerous and difficult conditions encountered, combined with the growing evidence of affluence among elite shareholders and mine owners hardened the men's resolve to try to improve their lot, resulting in a resurgence of that 'absurd antagonism which sometimes appears to exist between labour and capital' (Kennedy, 1978, p. 19).

A victory worthy of Pyrrhus

In the first decade of the 20th century, trade union power reached an early peak in North Queensland with the formation of the Amalgamated Workers Association, centered in Irvinebank. This was achieved under the guidance of 'Red Ted' Theodore and Bill McCormack, both destined to enter politics, becoming in due course, successive premiers of Queensland Labor Governments (Fitzgerald, 1994; Hunt, 2010). During this time the Irvinebank district saw a resurgence of class conflict with bitter industrial campaigns being fought. At the nearby mining settlement of Stannary Hills, after a protracted strike in 1909, the company eventually capitulated to the miner's terms only to close down the mines two months after work resumed (Hunt, 2010). Irvinebank followed a similar fate within ten years despite high tin prices prevailing at the time; the fire-sale of Irvinebank Mining Company assets to the Queensland Government in 1919 the result of a decade of recurrent class conflict (Kerr, 2000; 'Tin town of Irvinebank', 1919).

Mining Communities: The Contemporary View

As Australia entered the third decade of the twentieth century the economies of the industrialised world collapsed into the 'Great Depression'. This caused bankruptcies, mass unemployment and a subsequent 'capital crisis' which lingered on until government financing of Australia's Second World War effort provided the necessary boost to the economy (Lloyd, 2003). For almost three decades after WWII, Keynesian economic policy underwrote prosperity and industrial peace in Australia (Palley, 2004).

Agreement and betrayal

In 1973 the OPEC oil crisis, along with increasing globalisation, ushered in rampant inflation and militant industrial action, as trade unions endeavoured to maintain wage parity (Kelly, 1994). Under these conditions, it became obvious that the provisions of the Australian Settlement which had secured relative industrial peace since federation were no longer effective. The Whitlam Labor and Fraser Conservative governments introduced piecemeal corrective measures, but a more workable solution was not forthcoming until the Hawke Labor government brought the trade unions into an 'Accord', which saw the industrial unrest come to an end (Kelly, 1994; Woodward, 2005).

Unfortunately, the agreement under this Accord, unlike that of the Australian Settlement, did not include the conservative opposition, and also failed to gain a firm commitment from the employers. This enabled the subsequent Howard conservative government to introduce 'New Right' policies and legislation in the mould of Reagan and Thatcher, aimed at destroying the representative power of working-class unions (Cooper & Ellem, 2008) and abetting the monopolisation of Australian mining interests by Trans-national Corporations (TNC's) such as BHP Billiton and Rio Tinto. Industrial relations policies which have been pursued by these companies in the iron ore mining industry in the Pilbara, with the collusion of government legislative support (Cockfield, Rainnie, Buttigieg, & Jerrard, 2009; Cooper & Ellem, 2008), have seen a return to working conditions reminiscent of those of the nineteenth century, with twelve-hour workdays, de-unionisation and casualisation of the workforce, outsourcing to contractors, introduction of individual work agreements and an end to collective bargaining. Workforces have been further fragmented by the demise of mining communities with the advent of fly in fly out (FIFO) long-distance commuting, usually from capital or major regional cities (Langdon, Biggs, & Rowland, 2016).

The great white 'shell game'

Along with the elimination of tariff protections and arbitration of industrial disputes, globalisation and 'New Right' legislation have also managed to remove the foundation plank of the Australian Settlement, the 'White Australia Policy' (Kelly, 1994). This policy, crafted at federation, was thought essential for the protection of Australian workers' hard-won conditions from cheap foreign labour. Although today synonymous with an overt racist attitude in Australia, in fact, while racism may have emerged in the wake of the White Australia Policy, it was the protection of working-class conditions that was the initial motivation for its inclusion in the Australian Settlement (Markus, 1985). This Policy, which became 'the first plank in all parties policies' (Nairn, 1956, p. 27) at federation, was a response by these practical men to the practice of both British and home-grown capitalist elites to favour the employment of initially convict (Nairn, 1956), and subsequently, imported non-white, and therefore cheap labour at the expense of Australian workers (Balachandran, 2011; Bonacich, 1972; Markey, 1996; Markus, 1985; Martinez, 1999; Strikwerda, 1999).

In the present era of globalisation, it is capital rather than labour that is highly mobile, allowing for jobs in manufacturing to be exported from Australia to low wage, developing countries (Lambert, 2000). Today most of our household furniture, electrical and white goods, along with motor vehicles, which once were manufactured here in Australia, are now produced offshore and imported. The resulting 'level playing field' competition forces the wages of Australian workers into ever closer parity with that of countries like China, India and Thailand. In the recurrent cycle of class conflict, it is now capitalist elites who are in the ascendency, again with the collusion of government, who appear to have forgotten that they are elected to govern for all Australians.

Australian Mining: The Demise of Community

The automated future

The Australian mining industry, with invested TNC capital rendered immobile by the location of ore bodies, is pursuing what it sees as the only course open to it to maximise returns in the face of the present relatively high wage structure of Australia: that of increasing automation, with the resultant minimisation of workers (Bellamy & Pravica, 2011; Boulter & Hall, 2015; Burger, 2006; Kiziroglou, Boyle, Yeatman & Cilliers, 2016). From peak employment in 1901 of 9.2% of the workforce (Eklund, 2015), in 2016-17 mining employed just 2% of the nation's workforce (Labour Market Information Portal, n.d.) while returning export income of A$198 billion (Minerals Council of Australia, n.d.). Capital expenditure in increasingly sophisticated machinery is rapidly replacing traditional labour as the artificial intelligence (AI) revolution advances.

The future of work for the de-unionised and widely scattered and transient FIFO Australian mining 'community' is set to parallel the plight of the agrarian workforce of England in the period when the landowning class separated the 'peasants' from their means of living by enclosing the farmland of 17th century England (De Angelis, 2001; Marx, 1867). This has already occurred across a once diverse, and now greatly diminished Australian manufacturing industry. The anguish of the dispossessed working class is plain to see, with older workers facing long-term unemployment while the remuneration to CEO elites and board members has become a hissing and a by-word (Anenson & Mayer, 2010; Brick, Palmon & Wald, 2006; Wilhelm, 1993).

Australia Quarry Inc.

Australia today is a quarry to the world, with an ever-shrinking workforce required to man that quarry, and the rest of those fortunate enough to have a job being employed in service and support roles, or the non-wealth generating humanitarian sector. If there is one completely certain prediction about Australia's future it is that the mines are going to close and TNC companies leave when the minerals are exhausted, as they inevitably will be (Laurance, 2006). While there is much discussion today about 'corporate social responsibility' and the 'sustainability' of mining communities after the mine shuts down (Lansbury & Breakspear, 1995; McDonald, Mayes & Pini, 2012), what does the future hold for the working class of Australia when the mine is the whole country?

Interim conclusion: 'What has the government ever done for us'?

This study attempts to trace the ebb and flow of fortunes across the temporal trajectory of the ceaseless class conflict in Australia through an examination of the mining industry. With first the capitalist elites, and then the workers gaining the ascendency, only to lose it in the next great see-sawing of industrial capitalism, one thing stands out strongly. In 19th century England, as in colonial Australia, the government and the courts sided with capitalist elites to keep the working class in subjection. At Australian Federation, a group of 'practical men striving for income, justice, employment, and security' (Kelly, 1994, p. 1), representing government, opposition, employer and worker, forged an egalitarian agreement that made Australia the envy of the industrialised world for over 50 years (Lambert, 2000; Lloyd, 2003). That the provisions of the Australian Settlement required adjustment to accommodate a 20th-century globalising world is beyond dispute, but its complete abandonment in the 1970s and '80s has taken industrial relations in Australia back to the nineteenth century. Today, successive Australian Governments have again chosen to side with capitalist elites in the suppression of the working class (Cooper & Ellem, 2008). This situation is unlikely to change until Australian voters unite at the ballot box to punish governments who choose not to uphold the egalitarian ideal in which this Nation was founded, and demand representation by a government of 'practical men' in the mould of Alfred Deakin, who will strive for 'income, justice, employment, and security'.

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Appendix 4. Cotter, Chaiechi and Gopalkrishnan (2020)

Mining the Future: A Meta-ethnographical Synthesis of the Broken Hill Mining Community

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Theme track 5: Sustainable Marketing, Community, and the Planet

Abstract

The mining industry is today the largest contributor to Australia's commodity-based export economy. With an international market orientation from colonial times to the present, and by virtue of its corporate structure, the metalliferous mining industry may be considered a suitably representative proxy to reflect on the broader sphere of Australian economic and industrial activity. Equally, as the nature of work changes with advances in technology, the future sustainability of work communities has become of increasing concern.

A feature of mining communities in Australia, in both historical and contemporary times, has been the recurring conflict between capital and labour. This has at times severely impacted mine profitability, which in some cases has led to premature closure of mining operations. It has also caused widespread immiseration of working-class families during the extended strikes and lockouts which have ensued.

In *The Great Transformation*, Karl Polanyi (1944) outlined his thesis of a *double-movement* which occurs as a protective counter-movement whenever human society has been threatened by market liberalism. The trade-union movement has been arguably the most effective of such *double-movements*, from its inception during the Industrial Revolution, until a resounding defeat at the hands of market liberalism in the mining industry at Broken Hill in 1986. The union movement has yet to show any convincing signs of recovery from this defeat.

This paper employs a meta-ethnographical synthesis of the literature relating to the historic mining community of Broken Hill in New South Wales to explore the capital-labour conflict in industry. The meta-ethnography was conducted following the approach outlined in Noblit and Hare (1985). Key themes from a selection of five books and fourteen journal articles on the industrial history of Broken Hill were encoded into NVivo to facilitate the synthesis. Tracing the cyclical fortunes of the capital-labour conflict through the lens of the mining industry in this district, the study, aided by a proposed Culture Interpretive Theory (CIT), outlines implications for industry development, employment, and community sustainability in a future Australia, finding evidence that capitalism may be finally ridding itself of the need for the working-class.

Key Words: community; mining; capital; working-class; unions; market liberalism; Polanyi; conflict; sustainability.

Introduction

Polanyi's 'Double-Movement'

In 1944, anthropological economist Karl Polanyi, in his book *The Great Transformation,* described the transformation of European civilisation from a pre-industrial world to an era of industrialisation. In this most powerful critique of market liberalism, he developed his thesis of the *double-movement.* Polanyi proposed that market societies were constituted by two opposing forces. On the one hand, the laissez-faire attempts to expand the scope of the free market; and on the other hand, a resultant protective counter-force that emerges as elements in society move to prevent the attempt to establish such a market. Together, it is these two that constitute the *double-movement* (Polanyi, 2001). Examples of social protection that Polanyi elaborates include the Elizabethan Poor Laws, the Statute of Artificers, the Speenhamland Law, the Corn Laws, the Chartists, and the emergence of the working-class as a coherent entity.

Polanyi (2001) contended that the emergence of working-class unions during the Industrial Revolution in England was the most significant example of the *double-movement.* The immediate self-interest of the working-class, Polanyi believed, destined them to become the protectors of society against the intrinsic dangers of a free market. Particularly destructive to society, in Polanyi's view, were attempts by liberal capitalists to establish free markets in what he termed the *fictitious* commodities of *land, money, and labour* (Polanyi, 2001). It is the attempts to establish the latter, a free and unrestrained market in labour that has absorbed the attention of working-class unions ever since, and to which they have opposed themselves at every suggestion of its emergence.

Social Class Theory, or Culture Theory?

In Karl Marx's system of social class categorisation, he focussed his attention on the capitalist-class and the working-class as being the primary divisions of the production process. Although acknowledging the existence of other classes, Marx believed that the capitalist market tended to eliminate other non-capitalist classes, rendering them of lesser importance to his analysis (Barbalet, 1986). Changes in the division of labour since the beginning of the 20th century have seen the emergence of an increasingly divergent middle class. Professional and semi-professional positions that are not directly

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related to the production process such as managerial, technical, scientific, administrative, sales and accounts, have been designated as 'new' middle class, to distinguish them from the 'old' middle class of independent trade workers and merchants (Barbalet, 1986). From a Marxian perspective, given that this 'new' middle class remains economically constrained to seek employment through the labour market, it is still plausible for social class theory to consider contemporary capitalist society as divided simply into employers and employees (Barbalet, 1986), although a considerable diversity will be obscured in the process. An attempt to capture aspects of this obscured diversity by divisions into 'upper-middle class' and 'lower-middle class', 'unionised working-class' and 'unorganised working-class', or even Weber's 'status' divisions of class, would seem to provide little clarification, leading some proponents of class theory to call for a renewal "which would entail a wider and deeper concept of class" (Bottero, 2004, p. 986).

Building on this discussion, this research proposes a *Culture Interpretive Theory* (CIT) which is based on the analysis of the observed behaviour, actions and visible processes such as manifestos or artefacts, of sub-cultural divisions identifiable in a complex society. Such observation may be either direct, as in a participant-observer ethnography, or indirect, based on a meta-ethnographical synthesis of existing qualitative case studies and ethnographies. The application of such a theory would allow for a greatly expanded identification of relationships, including conflictual interactions and underlying motivations, within Marx's bipartite capitalist society division into employers and employees. The adaptation by the author of a *Culture Interpretive* perspective allowed the exploration of counter-cultural and sub-cultural influences, which often had a profound influence on the outcome of disputes (Fig. 1). The theoretical conceptualisation captured in Fig. 1 allowed for the bringing together of Tajfel's (1970) Minimal Group Paradigm, Steward's (1972) Cultural Ecology, and Anthropological and Organisational Culture theories, to build what is being proposed as Culture Interpretive Theory (CIT).
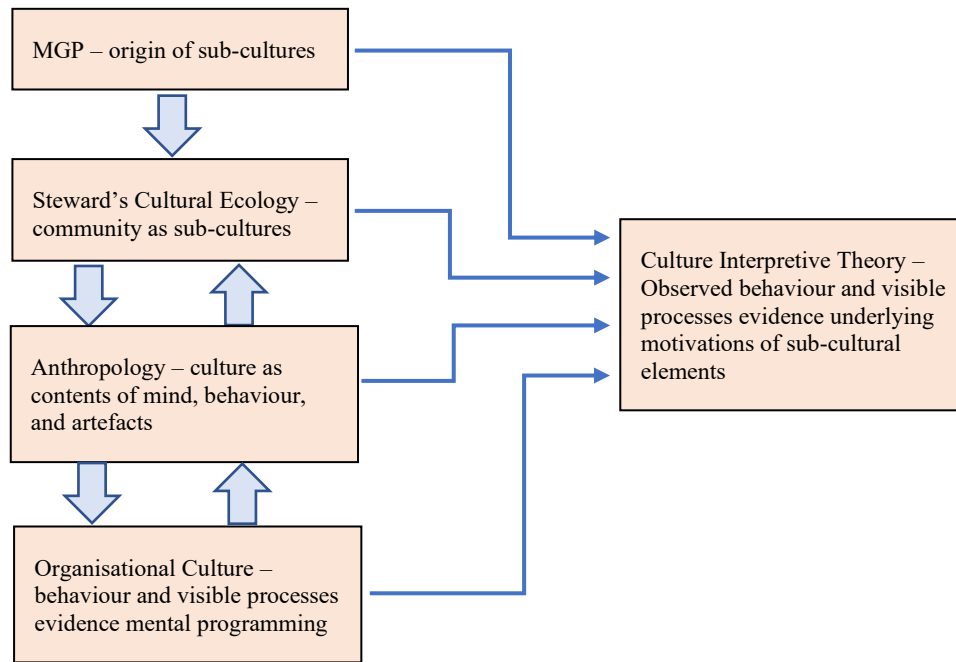
Fig. 1.   Culture Interpretive Theory. Adaptation by author showing input development from Minimal Group Paradigm (MGP) (Tajfel, 1970), Cultural Ecology (Steward, 1972), Anthropology (Taylor, 1948), and Organisational Culture (Schein, 1992).

Research Question

The research question guiding the study is: *What implications might the recurrent and cyclical nature of the tensions between capital and labour hold for the future of industry development and employment in Australia in the 21st century and beyond?* A capital-labour antipathy in mining communities in Australia has formed a prominent example of Polanyi's *double-movement* at work. This paper contends that the metalliferous mining industry, as a most significant contributor to Australia's commodity-based export economy, and by virtue of its corporate structure, can be considered a suitable proxy to reflect on the broader sphere of Australian economic and industrial activity. It is anticipated that this meta-ethnographic synthesis of the literature relating to the historic mining community of Broken Hill will provide insight into the reasons behind the capital-labour conflict. This in turn will inform understanding of the potential future course and sustainability of industry development and employment in Australia in the 21st century.

Methodology

In exploring the literature relating to Broken Hill, the prevalence of qualitative case studies became apparent, suggesting that an interpretive approach be adopted. As

methodologies within the interpretive paradigm were considered, there emerged a realisation that a meta-ethnography might be the methodological option best suited to addressing this research focus, as explained below.

First described by Noblit and Hare (1988) as a seven-phase methodology, meta-ethnography may be used to synthesise existing qualitative case studies. They further explain

> [a] meta-ethnography seeks to go beyond single accounts to reveal the analogies between the accounts. It reduces the accounts while preserving the sense of the account through the selection of key metaphors and organizers. The 'senses' of different accounts are then translated into one another. The analogies revealed in these translations are the form of the meta-ethnographic synthesis (p. 15).

In this context Strike and Posner (cited in Noblit & Hare 1988, p. 18) offered the following definition of synthesis.

> Synthesis is usually held to be activity or the product of activity where some set of parts is combined or integrated into a whole … [Synthesis] involves some degree of conceptual innovation or employments of concepts not found in the characterization of the parts as means of creating the whole.

Accordingly, to achieve such conceptual innovation it was decided to conduct a meta-ethnographical synthesis of existing qualitative case studies, as well as academic papers and grey literature sources, of the historic mining community of Broken Hill in New South Wales. The interpretation of these sources and the encoding of NVivo nodes was aided by Culture Interpretive Theory (CIT), which sought to discern the hidden motivations and "basic underlying assumptions" (Schein, 1992, p. 17) of the main protagonists under consideration. Through the interpretive and systematic comparison of a selection of the available monographs and literature sources referring to this community, such a meta-ethnographical synthesis stood to uncover novel insights into the nature and causes of the relentless class warfare that appears to have been an inescapable feature of both mining and industrial enterprises in Australia since earliest times.

Methods

Noblit and Hare (1988, p. 27) identified a seven-phase procedure in the development of a meta-ethnography, adding that "[i]n practice, the[se] phases overlap and may be parallel". How these seven phases proposed by Noblit and Hare were applied to the meta-ethnography of the selected mining communities is outlined below.

Theme track 5: Sustainable Marketing, Community, and the Planet

Phase 1: Getting started - the identification of an intellectual interest that qualitative research might inform.

It is scarcely arguable that in human society there has always arisen a minority who have been able to achieve dominance over the majority, who then become subjected under that power imbalance. Nowhere is this more plainly evident than with the emergence of a minority ruling-class capitalism during the Industrial Revolution in England. Such a situation prevailed, scarcely relieved by occasional government intervention, until the working-class was finally able to organise itself into a mass unionism to counter the power of the capitalists. This mass organisation of the working-class was referred to by Polanyi (2001) as a *double-movement*, which he proposed would always emerge in some form whenever the structure of human society was threatened by an unrestrained market.

The meta-ethnography of the Broken Hill mining community explores the continuation of this power struggle as it has played out over the last 135 years in Australia. In this contest, power ascendency has shifted between unions and management several times. At Broken Hill in 1986, judging by subsequent events in Australia, the forces of capitalism delivered a mortal blow from which the ranks of working-class unionism have to date shown no convincing signs of recovery.

Phase 2: Deciding what is relevant to the initial interest - will the research be exhaustive, or will it be targeted by a substantive interest?

The substantive interest of this research is the outworking of the antipathy between capital and labour. Given the implications of this antipathy for the future of industry development and employment in Australia in the 21st century and beyond, only monographs and journals which directly address this theme, or aspects of it, were selected to maintain the focus of the research. Ultimately, five books and fourteen journal articles featured predominantly in the final Broken Hill synthesis.

Phase 3: Reading the studies - requires extensive attention to details in the monographs and how they inform your substantive interests.

Beginning with the earliest publication, each of the books was read closely, recording themes relating to industrial action in the community. The themes were initially arranged in chronological order in Table 1 to give an overall appreciation of the main sequence of events, and to ensure that the chronology was preserved in the narrative. Relevant journal articles were added to the table to extend the period of coverage to the

present-day conclusion of the meta-synthesis. Following this, a more comprehensive analysis of both books and journal articles was undertaken in NVivo, by adopting an inductive approach in the selection of NVivo nodes, which served the purpose of delineating the relevant themes and interpretive metaphors found in the texts. Adherence to the research question during this process ensured that an appropriate focus was maintained.

Theme track 5: Sustainable Marketing, Community, and the Planet

Table 1. Chronological order of main themes (First page only, 1 of 10; shown for illustration).

	Dale, 1918	Blainey, 1968	Kennedy, 1978	Koenig, 1983	Journal Articles & etc
1884			Barrier Ranges Miners' Association formed at Silverton "to promote the mining interests of the silver fields by the close union and cooperation amongst the classes … the absurd antagonism which sometimes appears to exist between labour and capital was positively to be avoided by all"	The BH union movement born at Silverton Sept 20th, 1884 … public meeting at Adelaide Club hotel resolved "miner's assoc. to be called the Barrier Ranges Miner's Association" … July 5th, headquarters moved to BH.	(Journal articles take up from 1903)
1885		BHP floated into a public company June 1885. Difficult overland routes from Sydney of 900 miles … or by steamer to Adelaide 1200 miles then overland 2 days & nights.	Silverton more egalitarian … the struggle for existence linked men together … the hub of Barrier unionism moved to BH … Robert Griffin militant secretary. Survey of April 1, 1886, showed BH had 23 houses, 15 huts, 30 tents, 3 hotels, a store, 2 smithies, and various sheds & stables.	First BHP smelter blown in, May 6th, 1886. Carbonate of lead was the most plentiful ore at BH in the early days … lead-rich dust carpeted the town … SA extended the narrow gauge rail to the border … Silverton Tramway Co extended the line to BH in 1886.	
1887		W H Patton recruited from Nevada … most expensive manager … repaid his salary many times over in 1st year. Silverton Tramway opened in early 1888. Forty-seven hotels in BH … dominance of single men	By Oct 1887 BH population of 4-5K had outstripped Silverton, pop. declined to 1695. Rumoured in late April that BHP was contemplating introducing contract … American managers sought … hostility to Sydney … typhoid 1/3 of deaths	Patton (BHP) introduced the square-set timber method in 1888. Maze of timber became a fire hazard.	
1889 Union membership	Union membership drive … "the usual skull-dragging" … many refused … Strike on Nov. 7th lasted until 15th Nov … booming market – directors recognise compulsory unionism … "infringement on the sacred rights of the master class" – would not be tolerated long	"Knowledge of how to minimise lead poisoning, and even how to diagnose it, was still imperfect. How many people died from an overdose of the lead is unknown". Symptoms include lassitude; loss of appetite; weakness of hands, spreading to shoulders and legs … effect on nervous system.	Richard Sleath elected president of AMA … proposed establishment of 'closed shop' … 2500 of 3000 men were unionists … hardcore unionists were the underground miners … united community behind union … in the first 6 months of 1889 more than ¾ of union's expenditure was accident & funeral benefits … November strike.	Miners' union claimed 2,200 members of 3000 employed at BH … First strike for union recognition … management agreed to collect dues … several non-unionists tarred & feathered.	

Phase 4: Determining how the studies are related - create a list of the key metaphors and themes (and their relations) used in each account and juxtapose them.

Concurrent with Phase 3 above, the NVivo coding was guided by the research question, here restated for clarity: *What implications might the recurrent and cyclical nature of the tensions between capital and labour hold for the future of industry development and employment in Australia in the 21st century and beyond?* Adherence to the research question facilitated the identification of key themes and interpretive metaphors centred around industrial relations in the individual studies which, when combined with data from the chronological tables, allowed the comparison and synthesis of the key themes across the studies (Fig. 2).

There are not a few authors, including Noblit and Hare (1988), in their seminal book, who have appeared to use 'themes', 'concepts', 'key ideas', and 'metaphors' almost interchangeably, and certainly without adequate definition. This paper has regarded 'themes, 'concepts', and 'key ideas' as essentially synonymous, and are defined herein as themes. The relevance and selection of themes were determined by reference to the research question when reading the texts. Some examples of themes from Fig. 2 are 'Arbitration'; 'Living Conditions'; 'Mechanisation'; 'Metals Market'; 'Violence-Intimidation'; and 'Wages-Contract'.

Interpretive metaphors are less easy to define. Some sources may not contain what might strictly be termed 'metaphors', but for practical purposes, this paper has defined metaphors as less constraining than themes, in that nodes, again from Fig. 2, such as 'Class Tensions'; 'Counterculture'; 'Employers Rights'; and 'Soldiering', may each stand for a number of themes that can be aggregated under that metaphorical head. The synthesis occurs as the narrative is constructed by combining the sense and interpretation of the themes and metaphors across the chosen texts, to arrive at the meta-ethnography.

Theme track 5: Sustainable Marketing, Community, and the Planet

Nodes

Name	Files	References
Arbitration	9	14
Class tensions	15	168
Community	5	19
Support for Companies	1	4
Support for Unions	4	12
Counterculture	4	6
Employers	7	13
Workers	12	55
Employers'	0	0
Property	2	4
Rights	2	8
Living conditions	7	25
Accident	5	6
Disease	4	12
Domestic	5	6
Mechanisation	3	13
Metals market	8	17
Fall	5	9
Ore problems	3	4
Rise	1	1
Religion (ethics)	2	12
'Soldiering'	5	18
Violence-Intimidation	1	1
Company	3	10
Police	4	12
Union	8	15
Wages-contract	4	9
Decrease	4	7
Increase	3	3

Fig. 2.   NVivo screenshot showing nodes used to encode themes and metaphors identified in the Broken Hill monographs.

Phase 5: Translating the studies into one another … compares both the metaphors or themes and their interactions in one account with the metaphors or themes and their interactions in the other accounts.

Concurrent with Phases 3 and 4 above, Phase 5 was substantially enabled by the flexibility of NVivo to handle the data, facilitating the comparison of metaphors and themes across the different authors, as well as providing a range of visual applications of the data (Fig. 3).

Fig. 3.   NVivo word clouds enabled visualisation of weighting of themes and concepts.

Phase 6: Synthesizing translations - making something more than the parts alone imply.

Phase 7: Expressing the synthesis - choose a form suited to the intended audience, e.g., narrative form for an academic audience?

Phases 6 and 7 evolved during the crafting of the narrative, with reference to the themes and interpretive metaphors that emerged during Phases 4 and 5. Occasional recourse was also taken to period newspaper articles and other relevant grey literature, to enlarge upon themes either barely alluded to, or omitted from the encoded monographs. As the meta-ethnography had a significant temporal extension, continual reference to Table 1 was also required to direct the evolution of the narrative. This permitted the observation of the cycles of industrial unrest, and the circumstances that promoted those cycles. For example, the 1892 timeline of Table 1 (not illustrated in full due to space limitations) indicates in that year the metal market was falling, and that the companies had begun to

strike the intractable sulphide ore, placing them in a difficult financial position. Cross-referencing to NVivo reveals George Dales' (1976) observations of the industrial unrest of 1892 under the NVivo 'Wages-Contract' node. Dale also recorded circumstances contributing to the 1892 industrial action which were captured under the 'Class Tensions' node, as did Dickey (1966); Kennedy (1978), and Solomon (1988). Observations by various authors pertaining to the 1892 strike are also to be found under NVivo nodes 'Community-Support for Unions', 'Counterculture', 'Employers-Rights', 'Living Conditions', 'Metals Market', 'Soldiering', 'Violence-Company', and 'Violence-Union', all of which contributed to the crafting of the meta-ethnography. A continual cross-referencing between the Table 1 chronology of events and the NVivo nodes allowed the meta-ethnography to be synthesised in a temporal narrative form spanning 100 years.

Broken Hill: The 'Mecca of Unionism'

Broken Hill (Fig. 4) has entered the folklore of industrial relations in this country as the 'Mecca of Unionism' (Kennedy, 1978). At first take, it may be difficult to understand the reason for the town achieving this sobriquet. Between 1889 and 1920 Broken Hill had just seven significant strike actions, which, outside of the Barrier District itself, inconvenienced the nation very little. By contrast, over the same period the coal mining industry, centred at the time in New South Wales, regularly held the entire eastern seaboard of the country to ransom by strike actions that threatened the critical energy supplies of the day (Gibson, 1984). Energy needed for the generation of electricity, heating, and the powering of locomotives and shipping. So disruptive were these strikes that they provided the impetus for Queensland and Victoria to establish independent coal industries (Gibson, 1984).

Fig. 4.   Broken Hill location (Map data © 2021 Google).

This paper contends that the seeds of the folklore legend of the 'Mecca of Unionism' were planted in the very significant industrial action which occurred in the town in 1892. This action came in the wake of successful union strikes in 1889, which saw the companies agree to employ only union labour, and in 1890, in which the companies conceded a reduction in hours and agreed to refer any future dispute to arbitration. These successful actions which wrested the balance of power from the companies must have buoyed union spirits substantially. George Dale, in his *Industrial History of Broken Hill* crowed 'thus the Barrier [union] had had its first strike, had badly beaten the boss in eight days, and had won conditions never previously obtaining in this country …' (1976, p. 11).

1892: 'The Great Depression'

By 1892 the companies faced entirely changed circumstances (Blainey, 1968), of which, to judge by their actions, the unions appear to have had little appreciation. The 1890s depression, which was to last most of the decade, had settled on the land. Some scholars have recently considered that this was more severe than the Great Depression of the 1930s (Merrett, 2013). In addition, the companies were beginning to encounter the underlying sulphide ore, which the technology of the time was unable to process (Blainey, 1968). In a bid to reduce costs, the companies, led by BHP, decided to introduce mining by contract. They believed that more men were employed than the work required but were unwilling to antagonise the workers by reducing either wages or the workforce (Blainey, 1968).

Theme track 5: Sustainable Marketing, Community, and the Planet

The underlying issues of the conflict of 1892 at Broken Hill exemplify the difficulties inherent in many employment agreements. The founding father of modern industrial management, F. W. Taylor believed that the "conscious restriction of output" or 'soldiering' as he termed it, "has always been the original sin of the working-class" (cited in Davis, 1983, p. 83). The company directors had long harboured the feeling that the wage agreements they signed with the men every two years while guaranteeing the hours to be worked and remuneration to be paid, specified no obligation for the amount of work that was due in return. Contract mining, they felt, would give a fairer accounting of the time spent underground (Blainey, 1968).

The unions, quite comfortable in their present arrangement, refused even to consider mining by contract, and immediately went out on strike. They were rather arrogantly confident that they could dictate to the companies the terms under which they would agree to work, as there was no other skilled mining workforce available ("The Great Strike at Broken Hill, 1892"). Their actions belied an understanding of the true situation of unemployment outside of Broken Hill during the depression. In the great cities of the land, suffering as they were under the weight of the depression, there were too many unemployed men glad to find work at much lower wages than the miners of Broken Hill had been paid.

BHP manager John Howell responded to the strike by sacking the entire unionised workforce. He replaced them with labour contracted from the Melbourne firm of Baxter & Sadler, which he turned to open-cut mining at the top of the lode ("The Labour War at the Barrier, 1892"). BHP director John Darling vowed to devote his life to the beating out of unionism (Dale, 1976). Three thousand unionists were blacklisted by the companies with no option but to leave the town to look for work elsewhere. Just how comfortable the miners had been with their previous arrangement is indicated by John Howell's boast a few months later that "we have extracted 22,000 tons more of ore, with just under 40% less men" (Kennedy, 1978, p. 71).

In this action, the balance of power returned to the companies and would largely remain with them until the Big Strike of 1919-20. This was the source of the bitterness that the unions felt towards BHP, which eventually spread to include all of the companies. Radicals and militants from all over Australia flocked to the Mecca of Unionism, attracted by the opportunity to bring down the upstart BHP.

These events at Broken Hill were just a microcosm of what was occurring around Australia during the 1890s depression as employers attacked the hard-won conditions of workers around the country. The Queensland shearers dispute looked like descending into a country-wide civil war as the squatters armed themselves. They would rather shoot unionists than pay them a living wage (Spence, 2013). Back in Broken Hill, violence was barely avoided when the managers armed themselves and their supervisors while having the police confiscate firearms from the local rifle club premises (Dale, 1976).

At Federation, the national government was so alarmed at this narrow escape from anarchy that it moved to institute protectionism in the form of compulsory arbitration to ensure workers would receive a living wage. Manufacturer's profits were to be guaranteed by a system of import tariffs and duties (Kelly, 1994). Just when it seemed that Polanyi's *double-movement* protection in the form of working-class unionism had failed, other forces in society had moved to avoid social destruction.

Collins House

Although there were a further three strikes by the Broken Hill unions in the intervening period, it was not until the Big Strike of 1919-20 that the balance of power could be said to have returned decisively to the unions. In the interim, BHP, with its ore supply almost exhausted and able to work only when markets were favourable, had surrendered leadership on the field to the Collins House group of mines which were finally becoming profitable (Blainey, 1968). BHP would never again rise to the prominence in Broken Hill that it had once enjoyed. Its future lay in steelmaking, and it would retire from the field disillusioned by the militant unionism that it had done so much to promote.

The Collins House group favoured a more conciliatory approach to managing their workforce over the confrontational approach adopted by BHP. This had already produced favourable results at their Port Pirie smelters, and they hoped the same would be well received at Broken Hill. Unfortunately, by this time the Broken Hill miners were so far alienated that they viewed the conciliatory policies as, in the words of Kennedy (1978, p. 161), "delusions, palliatives, sops, and doles; for them nothing less than the complete overthrow of capitalism could emancipate the class-conscious worker".

The Big Strike

The Big Strike, which was to last for 18 months, began after the collapse of negotiations for the 1919 employment agreement. Cyril Emery, the current Mining Manager's Association president chairing the meetings, was a throwback to the confrontational BHP style of management. Arguing the merits of a good long strike, he stated that "once Broken Hill men owned the earth they would clamour for the moon" (Kennedy, 1978, p. 148). His attitude only hardened the miner's resolve, and the union leaders readied for a protracted and bitter strike.

 As negotiations to end the strike reached an impasse the Collins House directors took the lead, inviting union leaders to a Melbourne conference. It was here that they learned, to their complete surprise, of the health issues that were foremost in the miner's claims for a 35-hour week. A subsequent inquiry, examining the health of almost four thousand miners revealed the prevalence of disease and disability induced by the working and living conditions at Broken Hill (Kennedy, 1978).

The settlement of the Big Strike in 1921 was a high point in the union's long struggle for recognition of the difficulties of living and working in remote Broken Hill. Disease affected miners were retired with a lump sum compensation of £2,000. A 35-hour week was awarded for all underground men, and the night shift was abolished. The miners had won some of the best working conditions in Australia, but this would come at a significant cost to the companies (Blainey, 1968).

The Big Easy: The Lead Bonus

In 1925, in a bid to forestall a further campaign for higher wages and shorter hours from a resurgent union in a booming metal market, the Collins House directors agreed to introduce a lead bonus payment. This was to be indexed to the prevailing market price of lead. After the failure of their welfare initiatives, the directors hoped that this might re-acculturate workers to a more harmonious commitment to company objectives (Shields, 1997). In this, they were doomed to be disappointed.

As the Great Depression of the 1930s began to ease, the miners' union instituted restrictive job-control measures. Prominent among these was a ban on the employment of anyone who had not been born in Broken Hill or had lived within a 100-mile mile radius for at least eight years. Extra-union, communist-inspired 'job committees' also used go-slow tactics to force increases in contract rates. Restrictive staffing levels were

enforced, such as the rule of 'two men, one machine' (Shields, 1997). Such job-control measures were doubtless, union attempts at maintaining employment levels in the face of the increasing mechanisation beginning to be introduced throughout the 1930s. Once again, as in 1892, the union was presuming to dictate to the companies how they might manage their business.

Leading up to the Second World War, Broken Hill had been transitioning from manual mining techniques to more mechanised ore retrieval. The hand drills had long been replaced by compressed air drills. Picks and shovels were now being replaced by mechanical loaders and underground diesel and electric locomotives, allowing for much greater tonnages of ore to be handled. Despite these innovations, however, productivity per man continued to decrease post-war, and bargaining power remained firmly with the unions (Shields, 1997).

While the mining industry has often cited worker safety as one of the principal reasons for introducing mechanisation (Stewart, 2016), it is logical that capitalist owners will only introduce mechanised methods if doing so is profitable (Mahnkopf, 2019). Not so readily admitted behind the drive for mechanisation in mining is the desire to reduce a troublesome labour force as far as possible (Stewart, 2016). Frustrating this motivation of the Collins House directors at Broken Hill were the job-control and restrictive work practices of the miners, who also began to moderate their work effort in response to a steep rise in the lead bonus. By the late 1940s, the price of lead had boomed so that the lead bonus constituted as much as half of a miner's take-home pay (Shields, 1997).

Contract mining had been introduced at Broken Hill in 1892 precisely in a bid to counter the 'systematic soldiering' that the managers believed had been occurring under conditions of waged mining. At the time it resulted in a greatly increased output per man, but with the affluent pay conditions resulting from a runaway lead bonus in the 1950s, the problem of systematic soldiering had obviously re-emerged. Despite this evident disadvantage of the lead bonus, in a booming market the companies were able to absorb the increased labour costs and were reluctant to provoke a confrontation that might lead to strike action and a consequent reduction in profits.

CRA: A Final Reckoning

After 1952, the Collins House companies were superseded by new mining conglomerates such as Conzinc Riotinto Australia (CRA), who favoured a partial reversion to a more confrontational and 'Taylorist' style of management. In the mid-1970s, ongoing technological development underpinned the first sustained increase in productivity since the 1950s. This, despite a steady decline in workforce numbers, achieved predominantly by voluntary redundancy. The further decline in workforce numbers that accompanied the adoption of mechanised long-hole stoping in the CRA mines also contributed to a weakening of union influence (Shields, 1997). Such technology-labour substitution was to set the stage for a later offensive by CRA against restrictive union work practices.

In the decade after the first OPEC oil price shock of 1973, Australian mining industries faced heavy price competition for exports in a world that was becoming increasingly connected in the process of globalisation. The CRA company, with mining operations in Western Australia and Queensland as well as Broken Hill, had been undergoing a decade of management restructuring under the guidance of CEO Roderick Carnegie, to enable the company to meet the challenges of globalisation. Chief among Carnegie's concerns was the inefficiency of the workforce and the high level of industrial conflict at some of the company's operations (McKinnon, 2007). By the end of 1985, the company was preparing to test the mettle of Australian mining unions at that 'Mecca of Unionism', Broken Hill.

In February 1986, CRA made the shock announcement that their Broken Hill mining and processing operations were no longer profitable under present conditions and would close the following week. The city's fourth major mine, North Broken Hill Limited announced shortly afterwards that it also would be retrenching part of its workforce. The total workforce across the four mines was 3010 workers. The registered association of Broken Hill mine managers, the MMA, subsequently served a log of claims on the unions, citing sixty-three restrictive work practices as contributing to low productivity, making the companies uncompetitive on world markets (Flynn, 1988).

The unions, unaware that the companies intended to replace previous contract agreements with an award, presented at the conciliation conference convened by Justice Fisher prepared only to discuss the dispute. They had no legal representation, and no

prepared evidence to counter the companies' well supported legal submissions to substantiate their claims. Part of the evidence presented by the companies compared production at Broken Hill at 1,100 tons per employee per annum, with production at Cobar at 3,200 tons per employee per annum. The unions were unable to counter this submission. Justice Fisher's recommendation that the unions accept the companies' log of claims was rejected by the unions, leading the companies to apply for arbitration and the granting of an award (Flynn, 1988).

At the subsequent arbitration hearing, again convened by Justice Fisher, the unions were represented by the general secretary of the Miners Federation, a part-time law student. The companies were represented by a Queen's Counsel, a barrister, and a solicitor. Counsel for the unions, unable to counter the companies' statement as to their financial position, was criticised by Justice Fisher for the lack of evidence to support the unions' position when he subsequently handed down the Metalliferous Mining (Broken Hill) Interim Award in May 1986 (Flynn, 1988).

Of all the industrial actions in the long history of Broken Hill, two stand out as a signal lesson in industrial relations for both unions and companies. In 1892, amid a global recession, a haughty and disdainful union thought to dictate to the companies the terms under which they would agree to carry out their work. Again in 1986, a union grown fat on the lead bonus thought by restrictive practices to circumscribe a company's prerogative in managing its business. In doing so, on each occasion, the union made the mistake to its ultimate cost, of not appreciating the changed international circumstances and conditions of profitability in which the companies were operating.

Mining the Future

Six months after the Broken Hill dispute began, in July of 1986, in what cannot be considered mere coincidence, mining company Peko Wallsend, soon to be known as 'North Broken Hill Peko Ltd.', also served a log of claims on its troublesome unionised workforce at the Robe River iron ore operations in the Pilbara District of Western Australia. The protracted legal dispute which followed became the basis for the de-unionisation of the Pilbara iron ore industry, and the beginning of a new era of industrial relations in Australia (Ellem, 2015). At the time of writing in 2021, there has been no indication of a resurgence of Polanyi's *double-movement* in favour of the

dispossessed working-class. Capital, for its part, continues to move relentlessly closer to full automation of its mining operations in Australia.

Conclusion

This paper has employed a meta-ethnographical synthesis of the literature relating to the historic mining community of Broken Hill in New South Wales to explore the capital-labour conflict which appears to be inherent in industry in the Western world. Tracing the cyclical fortunes of the capital-labour conflict through the lens of the mining industry in this district, the study, aided by Culture Interpretive Theory (CIT), outlines implications for industry development, employment, and community sustainability in a future Australia, finding evidence that capitalism may be finally ridding itself of the need for the working-class.

Polanyi's *double-movement* thesis in *The Great Transformation* has experienced something of a resurgence of interest among contemporary scholars (Lacher, 1999). As present-day dilemmas facing a globalising society begin to echo the events leading up to the First World War, the Great Depression, and the rise of Fascism, it is as though Polanyi is speaking directly to present-day issues. Although in penning *The Great Transformation* in 1944, Polanyi may not have envisaged the disruptive power capable of being wielded by a militant and powerful union, he does seem to have anticipated that the *double-movement* could be a two-edged sword. He stated that even capitalists had been involved at times in efforts to increase the stability of society (Polanyi, 2001), a fact that contemporary scholars may not have fully appreciated.

This study illustrates unequivocally that the *double-movement* as conceived by Polanyi is not intrinsically a movement of social forces against the excesses of capitalism. It may rather take the form of a social movement against the excessive use of coercive power in society, from whichever direction it might arise. As capitalism closes in on its goal of fully automated mining operations in the Pilbara, such a realisation, although too late for the mining communities and unions of the Pilbara District, portends ominously for working communities and the future of industry employment across Australia.

Theme track 5: Sustainable Marketing, Community, and the Planet

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Appendix 5. Cotter, Chaiechi and Gopalkrishnan (2022)

Digital displacement of labour in a post-COVID society

Abstract

Employers responded to the threat of labour domination in the late 20th century by embracing technology-labour substitution to minimise their workforces. This study applies a meta-ethnographical synthesis of literature discussing COVID-19 to illustrate how the pandemic is further accelerating the introduction of a new generation of worker-substituting autonomous machines.

Key words: COVID-19; recession; autonomous machines; labour activism; economic crisis.

Introduction

This paper is a subtext of a larger study investigating the capital-labour conflict in industrial relations within the context of the mining industry. The larger study is concerned with the implications of this conflict for the future of industry development and employment in Western industrialised countries. Taking an Australian perspective, the typical corporate arrangement of a metalliferous mining industry venture from late colonial times to the present has necessitated capital investment, a corporate management structure, and the employment of a wage-earning workforce. Such a configuration situates the mining industry as it has existed in this country, as a useful proxy to investigate some of the factors affecting the development trajectory of industry in general, industrial relations conditions, and working communities in an Australia that finds itself still heavily dependent on commodity exports in the 21st century.

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There is one further factor that underlines the utility of the Australian mining industry as a predictive proxy for the future of general industry and employment as the country faces the challenges and opportunities of the emerging digital economy. In the aftermath of the violent class warfare of the 1890s in Australia, social protection in the form of wage arbitration was introduced by State and Federal Governments to ensure that workers were paid an agreed minimum wage and that manufacturing employer's profits were safeguarded by a system of tariffs (Kelly, 1994). Australia's commodity exporters, however, principally mining companies and agricultural producers, were disadvantaged by the tariff system, having to compete on international markets and purchase overseas machinery at tariff-inflated prices.

It is therefore arguable that the artificially sustained high price of labour and locally manufactured goods under this wage protection system provided an early incentive for these industries to mechanise. Consequently, large-scale Australian company mining today constitutes the vanguard of industry and business in the adoption of mechanisation and automation afforded by the emerging digital economy. This offers potential insight into the likely future effects of artificial intelligence (AI) and autonomous machines on the wider Australian industrial and business communities. The current world-wide COVID-19 pandemic is only likely to accelerate the trend towards automation as employers endeavour to minimise the threat to their operations posed by human-to-human transmission in the workplace.

Methodology

The larger study of which this paper is a subtext was conducted as a meta-ethnographic synthesis. The intention of the larger study was to analyse a body of qualitative literature which explored the reasons for the conflict between capital and labour in the

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chosen mining communities. As methodologies within the interpretive paradigm were being considered for the parent project there emerged a realisation that the first and second order accounts in the chosen source literature might lend themselves to an immersive ethnographic analysis. This suggested that a meta-ethnographic approach might be productive, as explained in Cotter et al., (2021). The latter also presents an extensive description of Noblit and Hare's (1985) seven-phase method for conducting a meta-ethnography.

Offering both a descriptive and ultimately, a potentially higher-order interpretive reading, such an approach to the analysis of the recorded accounts presented a fruitful avenue to address the research. The success of this interpretive approach in the parent study led to its continued adoption for this current paper. Borrowing from the larger study, this paper extends the inquiry to explore how the COVID-19 pandemic is contributing to the introduction of a new generation of autonomous machines which may ultimately displace humans from many workplaces. A total of seven journal articles were selected dating from 2020 and 2021. The articles were retrieved by Google Scholar using the key words 'COVID-19+automation'. The journal articles selected for this COVID-19 meta-ethnography are listed in Table 1.

Table 1: *Journal articles selected for the COVID 19 Meta-ethnography*

Author/year	Title	Key Words
Blit, (2020)	Automation and reallocation: The lasting legacy of COVID-19 in Canada	COVID-19; recessions; productivity; innovation; automation

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Chernoff and Warman, (2020)	COVID-19 and Implications for Automation	COVID-19; economic loss; unemployment; automation; technological change
Coombs, (2020)	Will COVID-19 be the tipping point for the Intelligent Automation of work? A review of the debate and implications for research	Artificial Intelligence; automation; tipping point; robots; technological unemployment
Jowitt, (2020)	COVID-19 and the Global Mining Industry	Recession; supply-chain disruptions; logistical challenges; automation
Laing, (2020)	The economic impact of the Coronavirus 2019 (COVID-2019): Implications for the mining industry	Contraction of demand; global recession; oversupply;
Lin, (2021)	Automated infrastructure: COVID-19 and the shifting geographies of supply chain capitalism	Automation; COVID-19; digital technologies; labour; logistics; infrastructure; supply chain capitalism
Paredes and Fleming-Munoz, (2021)	Automation and robotics in mining: Jobs, income and inequality implications	Human contagion; automation; labour markets; inequality;

Following the seven-phase procedure for the development of a meta-ethnography outlined by Noblit and Hare (1985), the selected journal articles were first uploaded into

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NVivo 12 and encoded to identify themes relating to the question: How is COVID-19 contributing to the mechanisation of industry? The themes identified were as follows:

1. *Complementing-Substituting*. 24 references across four papers were identified. This theme refers to the phenomena identified by Susskind (2021) in which machines, depending on their capabilities, may either complement the work efforts of humans, or substitute for humans in the workforce. A theme *Productivity increase*, with five references across two papers and originally created as a separate node, was ultimately merged into this node.

2. *E-commerce.* Six references across two papers. This theme refers to the replacement of traditional 'bricks and mortar' stores with an online presence by business, with its consequent reduction of human workers.

3. *Effect on mining.* 23 references across four papers, illustrating how ongoing adoption of automation has been accelerated by the threat of COVID-19.

4. *Health.* 17 references across four papers. One of five major nodes (Fig. 1). Reflects the vulnerability of human workers to machine replacement in a COVID stricken world.

5. *Hollowing out.* Four references in just one paper. This important theme discussing the early selective substituting effect of machines was also supported in the narrative by Susskind (2021) from the parent study.

6. *Most vulnerable.* 19 references across four papers. Reflects the differing emphasis that COVID-19 has placed on most-at-risk occupations and industries.

7. *Recession job loss.* 13 references across two papers. Reflects the role of economic recessions in accelerating job loss.

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8. *Social destruction.* With just three references in one paper (Lin, 2021), this very relevant theme was supported in the narrative by Galbraith (1998); Polanyi (2001), and Rifkin (1996) which derive from the parent study.

The relative weighting of the identified themes is illustrated in the NVivo-generated chart below (Fig. 1). It is evident from Fig. 1 that some papers were more insightful than others in particular areas, and as a result, contributed proportionately more to the meta-ethnography. For example, Blit (2020) contributed substantially to the themes 'E-commerce', 'Health', 'Hollowing out', 'Most vulnerable', and 'Recession job loss'. By contrast, Chernoff and Warman (2020), taking a feminist perspective, chose to emphasise the prominence of women in the 'Most vulnerable' theme, which unfortunately masked the relevance of 'type of occupation/exposure', when considering employment susceptibility to the COVID-19 pandemic.

Figure 1. *NVivo-generated chart, reflecting the weighting of themes identified across the selected journal articles.*
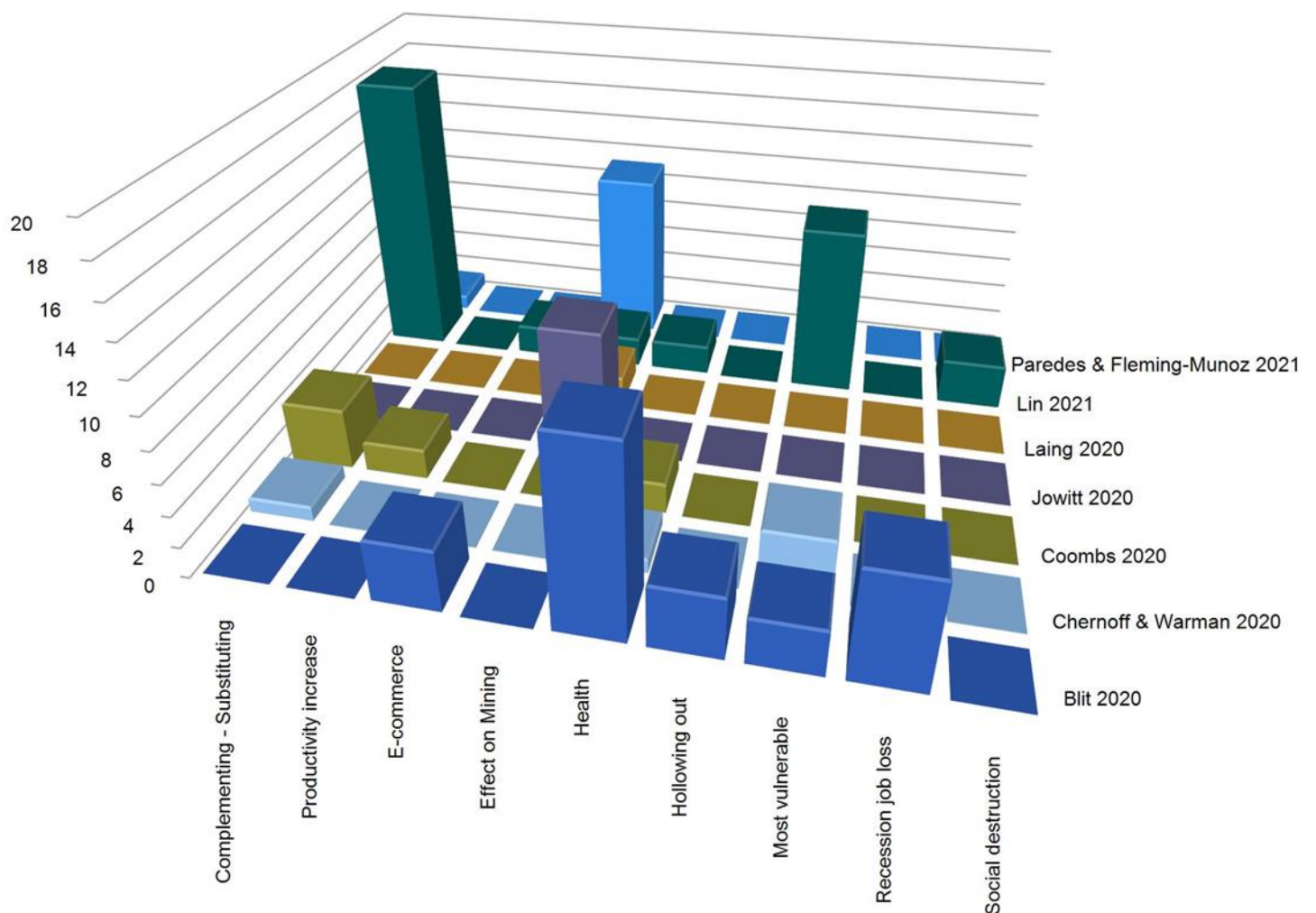
Background

The Mine of the Future: A Force for Change

In 2008, global mining giant Rio Tinto launched its ambitious 'Mine of the Future'

programme. The company website explained how the programme is unfolding using:

> … next generation technologies – like automation – to run our operations more
>
> safely, efficiently and with lower production costs. We were one of the first in the
>
> industry to adopt automation, and today we operate the worlds [sic] first fully

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> autonomous, long distance, heavy haul rail network – AutoHaul, ™ the worlds
>
> [sic] largest robot. (Rio Tinto, 2021, business history)

Automation has been principally promoted by the industry as enhancing the safety of mining operations. It will not have been missed by employers, however, that autonomous mining machinery, despite requiring substantial initial capital outlay, does not seek to join a union, take rest breaks, engage in deliberate slowdowns, loiter over shift changes, or require 12 hours off in every 24 (Davis, 1983; Galbraith, 1998), as well as needing both holidays and sick leave. Autonomous machines are also able to be brought online or stood down at a moment's notice as work scheduling might require.

As early as 1943, the Polish economist Kalecki had warned that Keynesian full employment policies would eventually become a problem for capitalism as it was likely to change the balance of power in the labour market, creating inflationary pressure as workers demanded wage increases (Kalecki, 1943). By the late 1960s, the ensuing predicted development of this change was inconveniencing Western capitalist countries little, as corporations, other than those engaged in resource export industries, were able to pass on wage rises to the consumer by charging higher prices (Volscho, 2017). By the 1970s this was no longer possible as corporations were beginning to come under increasingly competitive pressure from the post-war rebuilt and modernised infrastructure of German and Japanese industry (Volscho, 2017). In addition, Western industrial corporations now had to contend with a militant labour force long lacking the discipline afforded by unemployment, as well as oil price shocks, consumer and environmental regulations, and progressive taxation from unsympathetic governments (Waterhouse, 2021).

Manufacturing industries, in response to these pressures, have diversified into global production networks (GPNs) (Lin, 2021). Mining corporations, however, constrained by

the immovable nature of their ore bodies, had no option at the time but to stay and fight it out with militant labour. There were several times in Australia, at both Broken Hill in New South Wales, and the Pilbara in Western Australia, where companies were driven close to insolvency by the actions of militant unions, before finally managing to subdue their unruly workforces towards the close of the century (Ellem, 2017; Flynn, 1988).

In the mid-1980s, the Caterpillar heavy machinery company had begun a research program to develop autonomous mine haul trucks (Viewpoint Mining, n.d.). Coming at a time when industrial conflict in Western Australia's Pilbara District was threatening the viability of Australia's iron ore mining industry, it is not reasonable to consider that this might just be a coincidence of timing. The adoption of autonomous technology in Australian mining since that time has been so successful that it has been estimated that the first fully robotic mine could be operational in Australia by 2024 (Gray, 2019). As the autonomous operation of mining sites is increasingly rolled out in the Pilbara, it must be asked how this will affect the future of employment in the mining industry.

The Age of Labour

Elizabeth Humphrys stated that "the twentieth century was, ultimately, bookended by the formation and decline of organised labour in most advanced capitalist countries …" (Humphrys, 2019, p. 1). Daniel Susskind has also noted this period, calling it "The Age of Labour" (Susskind, 2021, p. 29). Susskind's insights into the development of technology across industry during this period hold some disturbing implications for the future of organised labour, and of the practice of work as we have come to know it in this and other Western industrialised countries.

Ever since the introduction of mechanisation during the Industrial Revolution, people have worried that machines will 'take their jobs'. These fears, which prompted the

machine-breaking Luddite movement of 19th century England, have been raised on a semi-regular basis since then. However, such fears have so far proven largely groundless. Despite the compounding increase in technological advance since that time, there has always been sufficient demand for the work of human beings to avoid large-scale unemployment. In fact, for much of that time, the opposite has been the case, with machines so contributing to the productivity of human beings that, as a result, many more job opportunities have been created than have been lost.

This helpful **'complementing force'** of machine technology is, according to Susskind (2021), what has been largely responsible for 'The Age of Labour'.

Within the mining industry, the complementing force of machine technology became quite prominent at Broken Hill leading up to the Second World War. Manual mining techniques were giving way to more mechanised ore retrieval using mechanical loaders and underground locomotives (Paredes & Fleming-Munoz, 2021), greatly increasing the productivity potential of each worker. Despite this increased potential, and to the great frustration of employers, productivity per man decreased in the post-war years as union members, fearful of job losses, responded by moderating their work effort (Shields, 1997).

Job losses in the affected area of industry have been an inevitable result of machine complemented productivity increase. However, as the prosperity induced by such productivity increase flowed on to the rest of the economy, displaced workers were easily absorbed into other areas of that industry, or into other sectors such as manufacturing. The net result of this was that the 'economic pie' of the country was increased, with workers not so much losing employment as being 're-allocated' to newly emerging jobs (Susskind, 2021).

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The Age of Machines

There is, however, a downside to this optimistic scenario. Susskind (2021) also identified an opposing **'substituting force'** to replace human workers, which comes into play when machines have achieved a certain threshold level of capability. In the mining industry in Australia, this has been exemplified by the ongoing adoption of autonomous machinery since 2008 that has witnessed the displacement of many previously well-paid operator's jobs. These are being supplanted by markedly fewer, although higher paid jobs, requiring skills in science, technology, and engineering, as well as those skills needed to design and maintain the autonomous systems (Australian Institute of Mining and Metallurgy, 2020, Aug 17; Paredes & Fleming-Munoz, 2021).

Such skills may be difficult for current and former mineworkers to acquire in an environment where they may have to forego full-time employment to upgrade, only to then compete for positions with younger university graduates. Despite the fanfare with which the Hawke Labour Government introduced its program for a more flexible, more highly trained workforce in the 1980s (Kelly, 1994), there followed little actual progress in retraining for higher skills, either by the Hawke, or any subsequent Australian Government. However, it is entirely likely that even should such training be offered in future it may achieve little in the way of re-employment. As Jeremy Rifkin has observed:

> The few good jobs that are becoming available in the new high-tech global economy are in the knowledge sector. It is naïve to believe that large numbers of unskilled and skilled blue and white collar workers will be retrained to be physicists, computer scientists, high-level technicians, molecular biologists, business consultants, lawyers, accountants and the like. (Rifkin, 1996, p. 36)

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As autonomous machines become more capable, they will require less human supervision. Not too long ago, such machines had to be laboriously programmed to carry out a limited range of operations within carefully defined parameters (Susskind, 2021). Today, machines are being developed that are capable of programming themselves, with no human input. An illuminating example, given by Daniel Susskind (2021) was the evolution of the development of game-playing 'robots' between the years 1997 and 2017.

In 1997, an IBM system called Deep Blue beat world chess champion, Gary Kasparov. It achieved this through brute-force processing power. In 2016 a more sophisticated system called AlphaGo was developed to play the complex Chinese board game, *go*. It beat the best human player in the world in a five-game series using a different strategy. Initially, AlphaGo reviewed millions of moves played by the best human experts, after which, it continued to learn by playing thousands of games against itself.

In 2017 an even more sophisticated version of the system was developed called AlphaGo Zero. It needed no input from human experts at all. As Susskind explained, "[a]ll it needed was the rules of the game. Given nothing more than those, it played itself for three days to generate its own data – and it returned to thrash its older cousin, AlphaGo" (Susskind, 2021, p. 53).

Every day, machines are becoming more capable of displacing human jobs (Paredes & Fleming-Munoz, 2021). The result, now becoming all too visible, is the 'hollowing out' of the formerly well-paid middle range employment, leaving a jobs market increasingly composed of high-paid, high-skill jobs at the top, and low-paid, low-skill jobs at the bottom (Blit, 2020; Susskind, 2021). The casualised 'gig economy' has become a commonplace term in the current vernacular.

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For those workers losing out to automation in the middle range jobs, who are either unable or unwilling to move up to the high paid, high skill sector, there remains only the slide downwards into low paid and casual work, or unemployment (Chernoff & Warman, 2020). As machines become ever more capable this trend is certain to increase as capitalist employers enthusiastically adopt technology-labour substitution in a bid to eliminate industrial and human relations problems (Lin, 2021; Shields, 1997; Stewart, 2016). Eventually, even the low-paid menial work will become mechanised, leaving a future where a relatively small number of high-skilled people will have enough work.

Those currently employed in the services sector should not feel complacent about this trend, as 'intelligent' machines begin to encroach on areas previously thought safe from mechanisation. Machines are proving increasingly capable in such varied areas as law, medicine, education, finance, insurance, and even on tasks that require our affective capabilities (Susskind, 2021). Daniel Susskind gives the example of a humanoid robot, 'Pepper', which greets guests in Belgian hospitals and guides them to the right department. In Japan, which has one of the largest elderly populations in the world, and antipathy of foreigners working in their public services, progress in the adoption of nursing robotics is proceeding apace (Susskind, 2021).

Once machines achieve a certain level of capability, it is inevitable that the 'substituting force' to replace human workers will predominate over their 'complementing force'. This is not something that will happen overnight, nor will it happen evenly across all areas of human occupation, but it is already well under way, and will only accelerate with the increasing sophistication of machine development. The 'hollowing out' of middle-range jobs and the proliferation of part-time and 'gig' jobs are the 'canaries in the coal mine' warning of perilous times ahead (Susskind, 2021). It seems certain, by

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trends that are evident in late 2021, that the COVID-19 pandemic must only accelerate

this process (Coombs, 2020).

The COVID-19 Meta-ethnography

The following section looks at three avenues through which the COVID-19 pandemic is already demonstrating a capability to negatively impact human employment. These are: 1) through a COVID-induced economic recession; 2) through a move by employers away from 'bricks and mortar' stores to online retailing (E-commerce); and 3) through the automation of global production networks (GPNs) to replace vulnerable humans in the supply chain with machines (Fig. 2).

Figure 2. *Three avenues through which COVID-19 is impacting human employment*
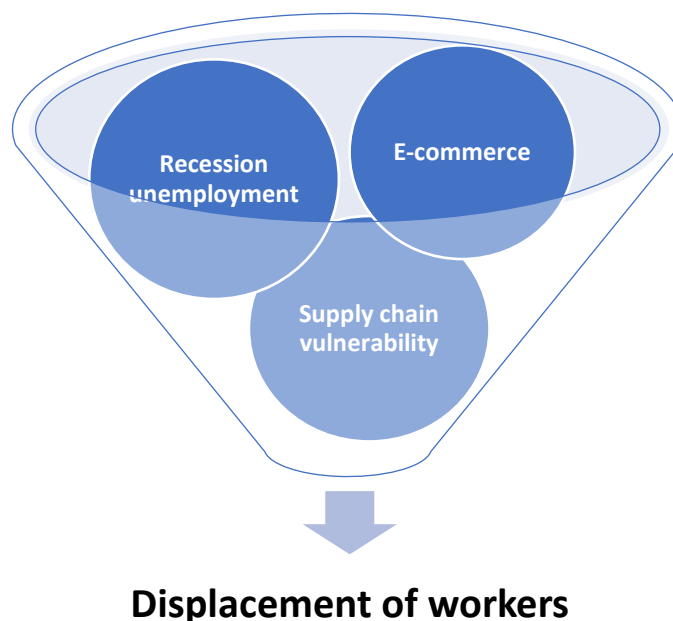
Employment in a Post-COVID World

COVID-19, which began as a health crisis in late 2019, quickly emerged as an economic crisis of global proportions as production and supply lines were disrupted across the world (Laing, 2020). On a global scale many millions of people were suddenly thrown out of work, and although in advanced Western countries at least,

employment saw something of a recovery in 2021, many of the lost jobs are likely to permanently disappear (Blit, 2020).

Recession Unemployment

In a trend that has emerged only since the beginning of the information and communications technology (ICT) revolution in the mid-1980s, every recession in Canada and the US since that time has resulted in the permanent loss of routine jobs to automation as manufacturers have sought ways to economise (Blit, 2020). While many employees in these disappearing jobs were subject to re-allocation, the COVID-19 recession is likely to be more severe due to its global scale and the added health-related incentives to automate. As Blit (2020, pp. 2-3) noted "[t]he best way for firms to protect workers and mitigate risks to their operations is to replace worker-worker interactions with worker-machine interactions, or better yet to dispense with workers altogether".

In previous recessions, it has been the more routine, easily automatable jobs that have been lost. The COVID-19 recession by contrast, has placed emphasis on jobs with indoor and face-to-face interaction which pose a strong transmission risk. Jobs in the health sector, formerly regarded as not easily automatable, are likely to increasingly succumb under the pressure of COVID-19 (Blit, 2020; Chernoff & Warman, 2020).

In addition to the previous example of the adoption of nursing robotics in Japan, autonomous robots have been used in China to disinfect hospital wards, while in Rwanda, robots are screening patients' temperatures, and delivering medication to infected patients (Coombs, 2020). Prescription refills, hitherto requiring face-to-face interaction with physical paper scripts, are quickly transitioning to online transactions (Blit, 2020). COVID-19 has also accelerated the uptake of technology for monitoring patients in their homes, thereby reducing the need for physical visits to medical doctors

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and their support staff (Blit, 2020). It is unlikely that any of these jobs will return to humans in the aftermath of the COVID-19 recession.

E-Commerce

Employment in the retail sector is also being severely affected by COVID-19. Businesses developing virtual 'e-stores' in the online environment have substituted the risk of staff exposure to customers in the traditional 'bricks and mortar' store with robotic warehousing and despatch. In the US and Canada, Walmart has been introducing cashierless stores, following on from the introduction of Amazon's "Just Walk Out" technology (Blit, 2020). There is also strong incentive in the hospitality industry to eliminate human-to-human contact that is likely to see physical services migrating to online. Cashiers, check-in clerks, and waiters may lose out to automation, with online check-in, menus and ordering, along with self-pickup windows becoming attractive alternatives in a COVID world (Blit, 2020). As consumers increasingly acclimate to the digital environment it is unlikely that many of these jobs will return in the face of threatening further waves of COVID or similar anticipated pandemics.

The Amazon Company in the US, which appears to have built its business model on the early 19th century practice of shamelessly beating down the wages of its workers (Thompson, 1966), found itself caught out by the COVID pandemic. Management had thought that investment in autonomous robots capable of the difficult (for robots) task of sorting and packing items into boxes was unnecessary due to the availability of cheap labour, until large outbreaks occurred among workers in the company's warehouses (Lin, 2021). Once having made the transition to automation it is unlikely that even these penurious jobs will again become available to human workers.

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Fractured Links in the Supply Chain

The response by Western corporations of the neoliberal Anglo-capitalist model to the labour activism of the 1970s and 1980s was to seek lower-cost suppliers across international borders (Lin, 2021). The resulting global production networks (GPNs) allowed them to reduce costs and increase profits while largely sidestepping unruly labour at home. Lin (2021) has regarded the shipping and handling infrastructure of GPNs as one of the last of capital's frontiers for the creation of value through the processes of distribution, transport and warehousing.

This expansion of capital's production, distribution, and consumption networks, however, was not without its own attendant labour problems. The logistics infrastructure has proven highly labour-intensive with large numbers of workers required for menial handling tasks (Lin, 2021). Such extended infrastructure networks have been highly vulnerable in the face of the COVID-19 pandemic.

Global shipping schedules were severely impacted by the grounding of the container ship, *MV Ever Given* in the Suez Canal in March 2021. Schedules were thrown into further chaos as the COVID-19 pandemic repeatedly disrupted production and supply lines, with infrastructure workers and ship's crews succumbing to the disease. As economies in the West began to recover in 2021, increased demand for goods exacerbated the chaos, causing a surge of up to 500% in the cost of shipping a container (Lannin, 2021), further highlighting the desirability of replacing vulnerable workers with automation.

Even before the advent of COVID-19, automated innovations were being introduced to port facilities around the world to counter the threat of resistant labour. In Rotterdam Port, the world's first automated container terminal was opened in 1993 (Witschge,

2019). By 2025 it is planned that autonomous cranes at Rotterdam will be talking directly to ships and to 'smart' containers, bypassing troublesome labour altogether (Witschge, 2019). In Australia there is a current proposal to develop a similar automated port at Freemantle Western Australia that has the Maritime Union of Australia fighting a rear-guard campaign to prevent the development (Maritime Union of Australia, 2020).

Despite such union opposition, COVID-19 has provided an added incentive for infrastructure owners to increase investment in robotics and AI to ward against future waves of pandemic. Indeed, such innovations are now being reframed as safety measures, protecting people from disease exposure while keeping production running (Lin, 2021). The adoption of such automation, driven by AI and autonomous robots is, according to some scholars, "stoking a revolution that will displace more jobs than in any technological revolution of the past" (Lee, 2018, as cited in Lin, 2021, p. 6). Labour activism against the move towards automation such as that currently occurring in Australian ports is only likely to harden capital's resolve to double-down on its efforts to eliminate this potential bottleneck (Lin, 2021).

Employer's Response

As the example of the mining industry in Australia has shown, the automation of industry and the displacement of human workers has significantly accelerated in response to the militant unionism of the 1970s and 1980s. Mining employers responded to the threat of labour domination in the late 20th century by adopting a technology-labour substitution process that sought to minimise as far as possible the size of the workforce while at the same time increasing its production efficiency (Shields, 1997). In the 21st century, this process of technology-labour substitution has advanced to the stage where it is fast becoming feasible to replace the human workforce almost entirely

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across all industry sectors with a new generation of highly capable autonomous machines. Although automation is argued ostensibly as a means to increase the safety and efficiency of operations, it has transpired that with the exponential advances in machine capability to date, the most certain route to safety and efficiency, and thereby profitability, lies in the elimination of human workers. The starkly apparent vulnerability of human workers to pandemic diseases such as COVID-19 is sure to hasten this trend towards automation and its consequent human 'disemployment'.

The recent response of one major multi-national mining company in Australia to an outbreak of COVID-19 provides a timely example of how industries and businesses will respond to meet the threat to their operations posed by such pandemics. In early July 2021, Newmont Mining's gold mine in the remote Tanami Desert of the Northern Territory was shut down when a returning fly-in, fly-out (FIFO) worker tested positive for COVID-19. The mine was immediately put into lockdown for 14 days, but by that time, up to 900 shift-changing FIFO workers had already flown home, precipitating immediate lockdowns in Alice Springs and Darwin, with concerns also expressed for Perth (Vivian, 2021).

The company's strategic response came just four months later. In early October, Newmont and Caterpillar jointly announced an initiative to rapidly deploy an all-electric autonomous fleet of haulage trucks (Business Wire, 2021). In the press release much was made of the reduction in greenhouse gas emissions of electric vehicles, with no mention at all of the politically sensitive, COVID-19 minimisation achieved by the consequent reduction in human operators (Jowitt, 2020).

The Consequence: A Post-Market Society?

Of Leisure and Abundance

There was a time when a future with a greatly reduced demand for work was regarded with positive anticipation. Maynard Keynes (2010), in *Economic Possibilities for our Grandchildren*, had calculated in 1930 that within just 100 years, due to technological advances, the average person would enjoy an age of leisure and abundance in which they should likely have to work only a fifteen-hour week of three-hour shifts. With just over eight years left in which to achieve Keynes' anticipated utopia of 'leisure and abundance' it has become plain that there was a missing factor in his calculations. The missing factor that Keynes neglected to allow for was how to ensure that the wealth generated by technological advance would be shared equitably across society.

Such a scenario exposes one of the fundamental contradictions of capitalism. The projected reduction of the workforce by autonomous machines will result in drastically rising underemployment and unemployment, along with the consequent loss of purchasing power by former workers (Lin, 2021). Only then, with the loss of much of their market might the capitalists begin to realise that machines, no matter how 'intelligent', have no use for capitalist goods or services. John Kenneth Galbraith (1998, p. 127) has stated that such a resultant "recession in demand and production remains the major uncovered risk of the modern large corporation".

If this strikes as an unfamiliar refrain it is only because its most recent occurrence has largely slipped from living memory. Although the exact causes of the Great Depression of the 1930s are still debated, Jeremy Rifkin (1996) has attributed the slump to the technological revolution of the 1920s that increased manufacturing productivity and output at a faster rate than available demand could be created. In largely concurring

with this view Galbraith wrote "[t]he immediate although not the ultimate cause of depression is a fall in the aggregate demand – meaning in the purchasing power available and being used – for buying the output of the economy" (Galbraith, 1998, p. 89). When workers displaced by technology could not find other work in the stagnating economy, collapse became inevitable.

Friedrich Engels, writing more than half a century before the Depression, had long anticipated such an event when he stated:

> The ever-increasing perfectibility of modern machinery is turned into a compulsory law that forces the individual industrial capitalist always to improve his machinery, always to increase its productive force … [but] the extension of the markets cannot keep pace with the extension of production. The collision becomes inevitable. (as cited in Rifkin, 1996, p. 25)

With the accelerating deployment of autonomous machines in response to COVID-19, the consequence to society of such a collision between capitalist logic and a permanently 'disemployed' workforce looms as a critical threat. Of this, Lin has observed the following:

> Over time, an unsustainable loop of hyper-extraction that concentrates more and more surplus value in the hands of capitalist elites, highly skilled technoscientific workers (Kirsch & Mitchell, 2004), and, at best, technicians of automation who manage to re-skill in time is the result, potentially spelling 'catastrophic effects on the economy'. (Lin, 2021, p. 13)

A New Social Order?

The last time that any Western society faced a crisis of a sufficient magnitude as to undermine its very economic foundations was in 16th century England. As the

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Agricultural Revolution burgeoned in the wake of land enclosures, a new system of wealth distribution, the paying of wages to agricultural labourers was beginning to displace the old feudal system of custom and exchange. Scholars have disagreed on whether this transition was peaceful and orderly; a positive good conducted with the cooperation of the peasants as Prof. Kerridge would have it, or a cruel uprooting of a helpless peasantry as described by R. H. Tawney (Appleby, 1975). The collapse of the principal institution of poor relief at that time suggests that Tawney's description may have been the more accurate.

In the 1530s, the Protestant Reformation had confiscated the Catholic monasteries which had been the chief institution of poor relief. The resultant "bands of beggars, robbers, and vagabonds [that] roamed the English countryside" (Lazonick, 1974, p. 17) suggests that the transition precipitated by the land enclosures was anything but orderly and peaceful. It was not until the late 18th century that the new capitalist basis for the ordering of society could be said to be in any way complete.

In the present 21st century, industrialised countries will be forced to seriously contemplate a machine-dominated future in which there may not be enough work for all who want it. The current COVID-19 pandemic has only underlined a trend that was already well underway. As the wage-based system for the distribution of wealth across society breaks down for many, and if we are to avoid a similarly extended period where 'beggars, robbers and vagabonds roam the countryside' as they did in Tudor and Stewart England, then planning for a new system of wealth distribution must be immediately prioritised. If Maynard Keynes' vision of 'an age of leisure and abundance' has any chance of being achieved, it is at this very moment that such attention should be concentrated, to preserve as far as possible the human fabric of society.

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The Parliamentary Library Research Paper on the future distribution of wealth shows that the government has some dim awareness of this uncertain future, but there is little sign beyond this that it is taking the situation seriously enough to act in time (Arthur, 2016). Wealth there is likely to be in abundance, as ever more efficient machine technology shoulders the burden of production. On this point Littman et al. (2021) have stated:

> If AI really does end up increasing 'economic possibilities for our grandchildren', society and government will have it within their means to ensure those possibilities are shared equitably. For example, unconditional transfers such as universal basic income – which can be costly in a world dependent on human labour but could be quite affordable in a world of technology-fueled prosperity and are less of a disorganised patchwork than our current safety net – could play a significant role. (p. 60)

The real difficulty will lie in achieving an equitable means of distributing that wealth.

A Universal Basic Income

It is beyond the scope of this present study to investigate what might constitute a suitable means of wealth distribution for the dawning Age of Machines, other than to point out that this is not a new idea. A Universal Basic Income (UBI) has been suggested in various forms in Anglo-capitalist countries since at least 1918 (Arthur, 2016). In 1962 Milton Friedman proposed a Negative Income Tax (NIT) scheme which appears to have the advantage that it would supplement low incomes without removing the incentive to continue working for those fortunate enough to have jobs (Arthur, 2016). Daniel Susskind (2021) has proposed a Conditional Basic Income (CBI) which, unlike the UBI requires its recipients to do something towards society in return. Susskind's CBI would seem to offer at least a model capable of advancing the debate in

the right direction. For any such wealth distribution method to lead to a successful and stable post-market society, the imperative would be to avoid the punitive stigma associated with current and past 'welfare' schemes.

Conclusion

One of the ways that capitalist employers responded to the threat of labour domination in the 20th century was by adopting a technology-labour substitution process that sought to minimise as far as possible the size of the workforce. In the 21st century, this process has advanced to the stage where it is fast becoming feasible to replace the human workforce almost entirely across all industry sectors with a new generation of highly capable autonomous machines. The advent of the COVID pandemic in 2019 has accelerated this process as capitalist employers have attempted to mitigate the business risk of human-to-human contact in the workplace.

If as projected, human workers are increasingly replaced by autonomous machines, a new basis for the distribution of wealth across society will become imperative. Unless such a scheme is progressively instituted as this process continues to unfold, the result will be the impoverishment of the 'working-class', with drastically rising unemployment and underemployment across society. The subsequent loss of a majority of the consumer market to the capitalists is most likely to be followed by the collapse and destruction of the fabric of society for an indeterminate time, as foreseen by Karl Polanyi when he penned *The Great Transformation* in 1944 (Polanyi, 2001).

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