Community Formation in Australian Mining Towns, 1880 to 1980

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In the context of the rapid development of new resource communities in the current global mining boom in Australia and elsewhere, it is timely to reflect on a century of community formation in resource rich countries. Based on extensive research on five major mining towns in Australia, complemented by field work and local interviews, this paper offers an historical overview of community formation in selected mining regions.

Such mining towns developed as distinctive urban and cultural formations. In the period after 1880, when mining became more heavily capitalised and carried out by joint stock companies, communities of wage earners and their families developed on the fringes of large ore bodies. While smaller finds led to temporary camps or short lived towns that formed and disappeared within the space of a few years, on the resource-rich Australian continent, large permanent towns were established to service major finds at Broken Hill (New South Wales), Mount Morgan (Queensland), Queenstown (Tasmania), Mount Isa (Queensland) and Kambalda (Western Australia).

This paper charts the development of these five permanent towns, and the changing nature of community formation. It draws links between the financial and labour process of the mining industry and the new community but also considers other factors – patterns of immigration, the regional context, new labour management strategies and the civic and organisational elements of local life. The legacy of these patterns of community formation were generations of deeply etched memories, together with the tangible heritage of mining communities embodied in an urban environment, pit top structures and mills. With an increasingly mobile fly in-fly out (FIFO) workforce being deployed to work new mineral finds, the next century of mining will not create distinctive urban environments in Australia or elsewhere. The paper concludes by considering the future of these communities as their ore bodies are depleted, or as an increasingly common FIFO workforce threatens town sustainability.

The paper initially considers the political economy underpinning the development of the six towns outlined above. It reveals the pathways and connections that flow through these localities, to regional centres, to state capitals and beyond to distant, international markets. It looks at the financial and investment connections, flows of union and community organisation and the movement of people through migration. In the financial and economic context we see patterns manifest across the continent. Mining towns, in particular the ore-rich ones with considerable longevity, became nodes for the fixing of capital, labour, and culture. In turn, the towns and their dominant companies had flow-on effects, influencing other places such

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as the port communities and nearby regional centres. The picture is of an interlacing of geography, finance and history.

Mining and industrialisation

The Australian colonial economies developed as almost separate hubs around foundational towns. From Sydney the pastoral economy moved west of the Blue Mountains, branching out inland, north, and south, in the 1820s. The coastal areas were another area of growth with towns such as Newcastle and Wollongong growing from the 1820s and 1830s. The scenario was similar in Van Diemen's Land where sites of first settlement — Hobart and Launceston — became economic hubs which captured and controlled inland development. Growth was predicated on the dual expectations of a convict or ex-convict workforce and the expropriation of the resources of the land and sea from Indigenous peoples.

There were patches of mining development that had particular effects in regional Australia. From 1803, Newcastle in NSW developed as a scattered collection of pit top coal mining villages located around the transport hub of the harbour. Copper mines in South Australia first developed in the 1840s at Burra and Kapunda, both north of Adelaide.

From 1851, gold changed everything. Images of these years, with sporadic rushes throughout the second half of the nineteenth century, evoke a frontier-like, anarchic period of rushed development. Despite the short number of years that gold was mined by the independent miner, there were important changes to industrial infrastructure. The size of the domestic market increased significantly, and new and increasing flows of free migrants changed the labour market, society generally, and politics. The Victorian population alone grew from 97,489 in 1851 to 538,628 in 1861. By 1860 convict Australia was a receding memory in most eastern colonies. Gold encouraged political change and underpinned regional development. Together with urban manufacturing (mostly in the colonial capitals), gold mining marks the effective beginning of more technologically-adept and capital-intensive industries.

Many mine sites developed on-site processing, and all required harbour or rail infrastructure as well as the engineering skills to make these complex mechanical systems (which increasingly replaced manual labour) function effectively. The final major expression of gold fever occurred in Western Australia – a colony that had struggled since its establishment in 1829 – from the late 1880s. It was the last gasp of the lone digger, and after the initial rushes larger companies, and more technically-sophisticated operations, began to dominate in WA much like they did in the east.

As well as gold, there were other mineral discoveries across the continent. In the 1860s, major finds occurred in the 'copper triangle' on South Australia's Yorke Peninsula including Wallaroo, Moonta and Kadina. Tin mining developed rapidly in the 1870s in the New England region of New South Wales, in northern Queensland and the Darling Downs, and in the north-west of Tasmania. Australia was the world's largest tin producer in that decade.

By the 1870s, clearer patterns of mining development had emerged. Geological realities, even by this date, indicated that Australia was rich in mineral resources. There was gold but also coal, tin, silver, and copper which were crucial for development in certain regions. Geology was the determining factor shaping a continent-wide geography of urban settlement, from the coal-mining towns of the Hunter Valley, to the gold towns of the Coolgardie/Kalgoorlie region. Even though financial, technological and political

considerations were all important in moving a geological find towards production, without the mineral resources in the ground there could be no development. Geology also helped create distinctive mineral regions. It was rare for a single ore body to be discovered which did not have payable lode in the immediate geological 'province'. The Mount Isa ore body for example is estimated to cover 50,000 square kilometres. This accounts for the number and diversity of mines in the region and influenced regional and town development from the earliest copper mines in the 1860s through to more recent development at the Cannington and Century mines.[1]

It was also apparent by the 1870s that larger companies with higher costs and more technological and engineering demands were replacing the older, loose associations. The promising geology and increasing company formation attracted significant investment from Britain. The newly-operational telegraph made regular communication with British investors and British-based Boards more feasible after 1872. These international links flowed through the colonial capitals, which formed effective centres of hub-like economies controlled both financially and politically from the city. The financial centre of the colonies was Melbourne – although financial elites in other colonial capitals disputed this claim, it remained demonstrably true – and the city would play an important role in the growth of the following decades. Thus the scene was set for major expansion of the mining industry in the 1880s, almost invariably in isolated areas of regional Australia but still bound to the city by the levers of financial and management control.[2]

Such rapid and large economic expansion needed a labour force. The 'long boom' between 1860 and the late 1880s, with its steady annual economic growth and active colonial governments, had created a more positive image of the Australian colonies as places of opportunity rather than the older, less attractive image of open prisons. After 1851 the widespread clamour for gold as well as the promise of a new life and new opportunities encouraged increased migrant flows to the colonies. Waves of arrivals, some with specific mining backgrounds, were coming to the colonies forming the core of a mining workforce that would travel from field to field in search of employment.

There were two countervailing forces operating on mining labour markets. New labour-saving technology reduced specific labour demand at mining sites and smelting operations. At the same time however, major expansion and new projects, along with employment in related industries, generated new demands for labour, especially in the latter half of the nineteenth century. By 1911, mining alone employed 87,000 workers across the continent.[3]

The industry, however, was a highly erratic and unpredictable one. The excitement engendered by opening a new mine, providing employment for hundreds of men, was tempered by the only too real possibility that technological, commercial or environmental problems could compromise an operation at any time. Any one of a number of problems could hamper or halt production; technical problems, a shortage of capital or equipment, accidents, bad weather, or a drop in metal prices. Therefore, labour demand for new projects was steadily growing but the location of such demand tended to be ever-changing. This created a group of itinerant workers who moved from field to field, mirroring the itinerant workers of the pastoral industry. The few major mining fields with greater longevity such as Broken Hill and Mount Lyell were the exceptions. Yet even here, downturns could send workers to other mining centres or city labour markets in search of employment for extended periods.

By 1900, mining contributed 20.1 per cent of Australian Gross Domestic Product, a major increase on 6.8 per cent managed in 1880. In the 1880s expansion was rapid and three of the towns under focus here —

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Broken Hill, Queenstown and Mount Morgan — had their genesis in that decade. British capital was important although the depression of the 1890s was a temporary setback for capital raising.[4] By 1900, however, mining was almost as valuable (at £23.8 million) as the rapidly-growing Australian manufacturing sector.[5]

There were two factors that facilitated this late nineteenth century Australian mining boom. Firstly, the experience born of the goldfields was often a basis for later mining developments. The School Mines at Ballarat and Bendigo, and later Kalgoorlie, trained highly effective mining engineers. Locally-trained men were supplemented by a steady stream of British and German specialists. From the 1890s, US experts also became more common, as Australian managers began to recognise the skills and experience generated from the large and advanced North American mining sector. Federation, too, was a stimulus to industrial development, creating one common market across the formerly divided Australian colonies, and assisting recovery from the depression which had begun a decade earlier.[6]

Secondly, colonial governments were strong supporters of mining development and as such they facilitated the mining boom. The sector was lightly regulated but strongly supported by state investment in transport infrastructure. Reform in company legislation, pioneered in Victoria from the 1850s, provided potential investors some protection.[7] The 1890s depression, and the widespread loss of investor confidence, led to another round of legislative innovation. Many colonial politicians doubled as investors and were not averse to serving on the boards of companies that in turn received government assistance or support.

Despite the high level of apparent appeasement and support for mining, the state was hardly a geographically neutral force in economic development. In other words, inconsistency of policy and delivery meant differential access to infrastructure and state support. Many regional towns struggled against the strong centralising force of state governments. In NSW, differential rail freight rates favoured the port of Sydney over Newcastle and other regional ports north and south of the capital. In Western Australia, the state government quickly built rail lines to the goldfields that all terminated at Perth or Fremantle, and was slow to build regional lines to closer port locations. Despite many years of lobbying by Esperance and the Goldfields representatives, the line from the goldfields town of Norseman to Esperance was only completed in 1927, with a new standard gauge freight line to Kambalda completed in 1974.[8] At the same time significant amounts of public money poured into capital city infrastructure with roads, bridges, and railway lines connecting the city with its hinterland and beyond. This made it very difficult for regional towns to compete with capital city locations. In Queensland, a more decentralized political economy modified this picture, but nevertheless such city-focused development persisted well into the twentieth century, driving the political formation of a 'country party' and the variously named equivalents.

Economic historians Barrie Dyster and David Meredith posit two distinct economies in Australia – a rural and an urban economy – and downplay the links between them.[9] Yet the history of these towns highlights strong region to region, and region to city connections. City-based investors formed the dominant groups of shareholders, and city-based directors and financiers in Melbourne, Sydney, Brisbane and London controlled these mining companies which were active in the regional economy. Shareholders and Directors were supported by city firms of solicitors, secretarial services, insurance agents, shipping companies, trading houses, accountants and mining consultants.

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Moreover, these connections were not merely linking the city and the bush. The development of Port Pirie and Queenstown reveal connections across the regions where mining capital and technology flowed from one place to another. As the most conveniently located seaport, Port Pirie, like many ports in similar situations, benefited substantially from the goods flowing in and out of the trade route following the rail line into far western New South Wales. Queenstown was an offshoot of BHP success at Broken Hill, and this mining field too would be controlled from Melbourne. Within the West Coast region of Tasmania, the development of Queenstown assisted the port town of Strahan, which was the closest port for both Queenstown and the mining town of Zeehan.

For Mount Morgan the relationship to nearby Rockhampton was crucial. Kambalda and Kalgoorlie were similarly linked in a bond of mutual dependence, and both had financial and management links back to Melbourne and Perth. Thus it can be argued that the economic and financial geography of the economy is more closely aligned with Lionel Frost's corridors linked by trade and transport, than Dyster and Meredith's model.[10] In the 1890s, if the colonial capitals were the hubs, then the mining towns in particular were important spokes for the economy. They were a focus of considerable economic activity in an otherwise depressed financial environment.

By the twentieth century, the nature of mining industry growth changed. New projects were less transitory, more carefully crafted and planned by what were by now larger companies. The inexorable reduction in labour demand began to have an effect. As noted the high watermark for mining employment was 1911 with 87,000 employed. The Great War gave a further stimulus to Anglo-Australian capital. Key German financers, like Aaron Hirsch und Sohn, had been heavily involved at Mount Morgan and with the Port Kembla copper refinery. Upon the onset of war they were ousted from the Australian base metals industry through the work of Collins House financier, W.S. Robinson, in concert with the then Federal Attorney General, William Hughes.[11] Protected by imperial preference, Australia found a ready market for wool and wheat in Britain but also for base metals like lead, copper and zinc. The year 1915 was a crucial turning point. That year Broken Hill Associated Smelters was formed as a major component of the Collins House group, and Australian steel making began on a large scale in Newcastle, NSW. Like the mining operations at Queenstown, the Newcastle works was built on Broken Hill profits.

After the Great War, British companies and investors increasingly retreated behind the walls of the Empire. As Cochrane notes, '[t]he Empire became a haven for a battered old power'.[12] A consequence of the retreat to Empire was the relocation of entire sections of industry to Australian bases. John Lysaght's, the Bristol-based English firm, moved to Newcastle in 1921. If state governments had built railways in the 1880s, they built infrastructure for electrification in the 1920s. That decade, there were public works for new generating facilities, electricity supply, trams and inner-city train systems. This was a great boon for local manufacturers of copper, wire fabrication plants, electrical systems and generators, steel and steel fabrication plants since many materials were sourced locally. In some cases, state government contracts actually stipulated the use of Australian-made materials.

From 87,000 in 1911, the Australia-wide mining workforce declined to 59,000 by 1933, and 37,000 by 1981.[13] At large operations such as Broken Hill, there were 4,452 miners by 1933, compared to 11,000 in 1892. Often these reductions were achieved with a concurrent increase in production figures – the grand dream of every capitalist manager and shareholder. Mechanisation, open cut mining methods, and new machinery – aerial ropeways, conveyor belts, diesel trucks, mechanical diggers and the like – all contributed

to the labour reduction. Efficiencies also extended to innovation in treatment methods, and this was particularly crucial in the smelting industry. From 1890 to 1915, a host of new metallurgical processes were trialled. Some succeeded spectacularly while others failed. Metallurgy was an inexact science and new ore types all behaved differently in the smelting and refining process. Complex ores could contain commercial quantities of lead, zinc, gold and silver, as well as traces of other useful metals. The most famous metallurgical challenge was solved by the Zinc Corporation, through the invention, and commercial proving, of the flotation process.[14] This allowed the large-scale reprocessing of otherwise wasted Broken Hill tailings that were rich in zinc from 1905, spawning another major player along the line of lode to join the original BHP.

It might be reasonable to expect that colonial economies focused on hub and spoke relationships were significantly altered by these wide-ranging twentieth century developments. But high transports costs, generally inadequate rail infrastructure (including break of gauge problems), and a small road transport industry meant that the capital city/regional hinterland relationships of the nineteenth century were not significantly broadened or diversified until the 1960s. Established patterns, with existing trade routes and transport corridors, were remarkably durable.[15]

What did change in the post-1945 period was the development of more accurate and professional geological surveying and drilling. Much of this had been pioneered by Collins House and BHP. But after 1945 BHP was no longer a player at Broken Hill or at Port Pirie, and the Collins House empire began to re-form as some of the dominant players retired or died. W.L. Balliueu had died in 1936 and Colin Fraser in 1944. In addition, key Collins House companies merged with British companies, in a pattern of capital acquisition that has carried on into the twenty-first century, through various changes in name and ownership became the genesis of the Conzinc Rio Tinto Group, later CRA and then Rio Tinto. US financiers also slowly replaced British capital. The Empire became the Commonwealth and subsequently lost much of its trading and financial coherence as Australia's major trading partners changed, first bringing in the US, then Japan and more recently China and India.

The geographical basis of the economy

The picture of the changing economy, sketched above, reveals crucial connections to the six towns under focus. All too often we are encouraged to think of the economy as a structuring factor in our lives that is aspatial and abstract. What is clear, however, from an account of mining and industrialisation in Australia is the geographical basis of the economy, and its constitution by real places and the relationships between them. From the 1880s, when the first towns considered here developed, large-scale financial investment in Australian mines was more common. Mining was more capital intensive as costs rose and capital requirements increased markedly. Whereas a few diggers could work an alluvial claim with little or no start up capital in the 1850s, by the 1880s raising money through share issues was typical. The mid-way point was the 1870s and 1880s when regional capital played an important role, particularly in the start-up phase. By the late 1880s, the independent digger who worked a claim on his own was the subject of nostalgic reminiscence by many in the labour movement as wage labour became the norm. The last gasp of this popular nineteenth century notion of independence was the Western Australian gold rushes where individual prospectors lead the way at small finds like Kambalda, only to be replaced by a large company within a year. The still commonly-expressed preference of 'working for myself' is a modern day echo of this desired liberation from wage labour.

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Broken Hill

In 1883, a boundary rider and amateur geologist, Charles Rasp, pegged a claim on a ridge in 'the Broken Hill paddock', part of the Mount Gipps pastoral run west of the Darling River. Rasp, a German immigrant with a shady past and at least two other identities, was employed by the Mount Gipps station, where its station manager, George McCulloch, along with others, formed a syndicate to develop the mine. The syndicate formed BHP in August 1885. Key players included men such as Bowes Kelly, who was present at the formation of the company, and served as chairman of the company in the 1890s and again after the Great War. Kelly had worked as a station manager, and dabbled in land speculation. William Knox, an accountant and experienced rural businessmen still had excellent Melbourne connections, and as the company's first secretary Knox was 'regarded as the brains behind BHP.' All of these men shared the luck of perfect timing coupled with shrewd investment. With capital behind them, they were able to invest in mine development and maintain their investments until the profits flowed. For Kelly the original £150 share purchase in 1884 was worth £1.5 million in ten years. He, along with the other early investors, joined the ranks of the 'Broken Hillionaries'. These regional capitalists soon relocated to Melbourne, where they had existing familial and business connections. Kelly purchased 'Moorakyne' in 1901, a large property in East Malvern, Melbourne, originally designed by architect Charles D'Ebro. This was Kelly's locality and he was as engaged in it as the miners at Broken Hill would be in theirs. Kelly was a councillor of the East Malvern Shire from 1892 to 1896. The sweeping views of the distant ranges framed the everyday scenery of this well-to-do suburb, while the wealth that underpinned his lifestyle was mined a world away.

In other cases early investors moved to London living the high-life on the line of lode's fabulous profits.[16] George McCulloch managed of Mount Gipps station, north of the Broken Hill, beyond Stephens Creek. His uncle James McCulloch, a Victorian politician and business entrepreneur of Scottish descent, was the owner. After BHP was floated in 1885, George McCulloch became a Director on the board. In McCulloch's case the Broken Hill find transformed his life. William Corbould, who was a young assayer in Broken Hill in 1886 and 1887, recalled that McCulloch moved, 'to the mansion in Queen's Gate, Kensington, London, where I met him again years later. The Proprietary had made him a millionaire and he lived amid his collection of art, attended by a retinue of servants.'[17] McCulloch's art collection was famous, his penchant for English and French artists renowned. The entrance hall of his home was graced with Italian marble, and four large rooms with walnut, mahogany and teak lining.

Regional players like Rasp and McCulloch were less important after the heady days of the 1880s. The wealth of the Broken Hill line of lode was controlled largely from Melbourne and London. The Broken Hill find proved so rich that it drew in outside capital at a faster rate. The bonanza load discovered in 1886, a rich vein of silver bearing ore, helped secure the necessary capital and maintain hopes until more investors had been brought on board. In the end, it was largely Australian, not British, capital that was utilised. Moreover, in a significantly isolated area such as Broken Hill there was no regional centre that might form a conduit between the town and the potential investment community. This role, then, was performed by Melbourne and, to a lesser extent, Adelaide. More importantly, by the 1880s and 1890s large amounts of capital investment along with more formalised and corporatised procedures for registering companies on sharemarkets were required. The older days of regional capital formation financing regional industrial and mining developments were passing, and increasing centralisation placed greater control in the hands of city-based financiers.

In geological terms, Broken Hill contained a substantial silver-lead-zinc lode that bankrolled the increasingly dominant BHP. The town of Broken Hill developed as a multicompany mining field, as distinct from the predominately single company fields of Mount Morgan, Mount Lyell and Mount Isa. BHP was the first, and the most important, company until its eventual withdrawal from the town in 1940. BHP had already sold off the northern and southern ends of its mining lease. These lease acquisitions marked the beginnings of other major mining companies in Australia; Zinc Corporation, Broken Hill South and North Broken Hill, among others. By 1915, these non-BHP companies coalesced around an interlocking group of companies with common shareholders and directors known as the Collins House Group. Together BHP and the Collins House Group dominated the Australian mining industry for 50 years, a testament to the wealth and longevity of the finds at Broken Hill.[18]

Mount Morgan

The move from a regional syndicate to becoming a major national company evinced by Broken Hill was emulated at Mount Morgan. In Mount Morgan, local commercial interests situated in Rockhampton were fundamental to founding the mine and the provision of capital for its inception. The Morgan brothers, local graziers who had taken over the original selection on which much of the orebody was located, invited Rockhampton interests to join the original syndicate which was formed in 1882. The syndicate included Thomas Skarrat Hall, a bank manager from Rockhampton, William Knox D'arcy, a Rockhampton-based solicitor, and William Pattison, a local grazier. Each contributed £2,000. The syndicate continued, in various forms, until 1886 when the company was formed. The Morgan brothers, who gave the mountain its name, had sold out thinking that this was a shrewd move. While the mine soon established links to Sydney and Melbourne, it was this Rockhampton base that was a distinguishing feature of its first 20 years of existence. As such, the origins of the Mount Morgan company's capital were regional in nature. In part the ability of the Rockhampton business elite to become fully-fledged investors in a major mining venture was predicated on the town's core of wealth generated by pastoralism, with the associated meat processing and transport industries in the 1860s and 1870s. The initial flush of gold-related development in the 1850s and 1860s played a role too.

Regional capital was the basis of many mining concerns founded in the 1870s and 1880s. The iron and steel industry at Lithgow, NSW was supported by regional capital, as was copper smelting at Cobar, NSW and large-scale gold mining at Charters Towers, QLD and Ballarat, Vic. In the 1870s, profits from Newcastle's Lambton coal mine financed the construction of two copper smelters in Central Queensland, at the Adolphous William mine.[19] In the late 1800s such regional capital flows criss-crossed the continent. And it was through these regional elites that the international and capital city investment flows encountered these new mineral finds.

Mount Lyell/Queenstown

On the isolated west coast of Tasmania there were few well placed investors. Even the pastoralists and station managers, who were often in the right place at the right time in other locations the 1870s and 1880s, were absent in this region, where there were few if any rural industries. Gold, tin, silver, zinc and lead mining had developed on the west coast from the 1870s, and some wealth flowed to through to the burgeoning town of Launceston. A gold find in 1883 around what was to become Queenstown first precipitated interest in the immediate area. Yet capital could come from other mining ventures across the county, and it was sourced principally from Broken Hill. Directors and senior managers from BHP like

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William Knox, William Orr, Bowes Kelly, and Hermann Schlapp, entered into the Mount Lyell field utilising their established financial connections, technical expertise and, above all, healthy profits from Broken Hill. The new Mt Lyell company was floated in 1893 in what was to prove a difficult climate to attract investors. The new target was not regional capital in Launceston, but investors from further afield in London. Bowes Kelly and William Knox visited London in 1893 and assiduously worked the financial and political networks. International capital markets were against them, however, and a severe depression, coupled with a decline in base metal prices made the challenge to attract off-shore investment in the start-up of a new obscure Tasmanian mining venture too great. Instead, a loose collection of Melbourne-based investors and directors financed the new company. Without domestic capital formation these mines would have failed.

Mount Isa

Collins House may well have gone on to own Mount Isa too, but for the strained relationships between the key figures in the small world that was Australian mining directorships. Conflict between Collins house directors and Mt Isa Mines executives, including W.S. Robinson and W.H. Corbould, resulted in Collins House staying away from the north west Queensland operation.[20] Instead, Mount Isa relied on US capital, in what was an early indication of the growing influence of US investment in the post-1945 period.

Mount Isa Mines (MIM) was formed in 1924, and mining leases were consolidated in the late 1920s. From 1930, US capital was dominant in the form of the American Smelting and Refining Company (ASARCO).[21] This would mean that Mount Isa, with a strong and paternalist single company, was to become much more of a company town than the ownership-diverse Broken Hill. The struggle to place MIM on a sound financial footing was partly a result of the difficult economic and financial conditions of the period, but also a clear indication that by the 1920s major development of an isolated mining field now required massive amounts of financial backing, which was not necessarily easy to secure.

Kambalda

The long reach of Collins House into the mining landscapes of Australia continued with the formation of Western Mining Corporation (WMC) in 1933, from a Collins House company, Gold Mines of Australia Ltd.[22] Formed in 1930, Gold Mines of Australia developed gold mining operations, one of the few mining operations that showed good prospects during the Great Depression. As Western Australian properties were acquired, showing promising yields, a separate company to manage the Western Australian-based mines was formed. WMC, then, was one of the many mining companies that came within the Collins House orbit. WMC's chairman was the central Collins House figure, Sir Colin Fraser, and the board included W.S. Robinson, and M.L. Baillieu. Head office was the famous 360 Collins Street, Melbourne, with a branch office in Perth (later moved to Kalgoorlie).[23] It was from this location in Melbourne that Directors planned mines and processing facilities, or alternatively followed the activities of competitors.

Such were the financial, technological and political factors shaping industrial and mining development in regional Australia. These towns were connected to, and controlled by, finance capital in the financial capital. But that is to privilege power over experience, and industry over history. We see a different picture when we move from a continent-wide focus to the towns themselves, their inhabitants, and the vibrant cultures established by these connected webs of financial and technological influence.

Community formation

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Industrialisation brought major changes to otherwise quiet country regions, but as we can see from the five case studies, the nature of each development was different depending on the location and timing, the surrounding regional environment, the ore being mined, and the number of companies on the field. The early development work, as pick and shovel broke the ground and felled trees held up temporary camps and shelters, evoked the old order with its rough-and-ready pioneering feel. This initial development phase is most commonly evoked in local museums and historical societies. Soon, however, residents watched in awe as poppet heads rose, industrial buildings were erected, railways were established, and industrial scale mining began. Overhead baskets on aerial ropeways carried the ore from the pit top to the smelter with increasing efficiency. Mines and smelters worked around the clock, and gas and electric light glowed eerily from the mines.

This new industrial regime marked out the days with sirens, steam whistles and hooters, while the increasingly mechanised production processes undermined the quiet of the landscape with the ever more intrusive rumble of industrialisation. These sounds and routines of industrial-scale mining replaced the seasonal rhythms of pastoralism and the deeper patterns and understandings of place of Indigenous Australia, of which most new white Australians were unaware. At the same time, emanations from chimney and furnace gave these sites a new odour and graced the atmosphere with particulates, smoke, sulphur dioxide, other gases and heavy metals. In dry country like Broken Hill or Mount Isa life was lived through a patina of dust that reached into every conceivable part of working and domestic life. Dust was, and still is, a common feature of life in Kambalda. In Queenstown it was water and the damp that pervaded everything. The Queen River and its associated creeks and springs filled the valley with the sound of moving water. And it was this long suffering river that carried away the worst of the Mount Lyell mine's pollutants while general manager Robert Stitcht's pyritic smelters produced large volumes of sulphur dioxide – enough to further denude the magnificent hills.

The local labour markets expanded rapidly, often without extensive or even basic infrastructure like housing or a commercial sector, presenting similar issues for all the towns in this earlier period of town development. Large numbers of men arrived in town in the start-up phase, taking rooms in hotels or boarding houses or living in hastily constructed camps and company housing. The perspective of those who did not stay for long provides an important counterpoint to the memories of locals who lived a life in one locality. Those who moved from place to place are also difficult to trace, and they may well have dissenting views on the experience of living in the locality. Paul Said was a Maltese immigrant who arrived in Australia in 1924. After spending a year in Adelaide, he journeyed to Broken Hill, where he worked and lived at the Grand Hotel. There were 134 Maltese-born people recorded in the 1933 Census; overwhelmingly male-dominated there were (106 males to 28 females). Like Said, these migrants often stayed in boarding houses or hotels. Their views of the town reflected their experiences on the fringes of the labour market where they were, typically exposed to the most dangerous work. According to Paul Said, employment was good,

[b]ut Broken Hill was a place you don't want to stay for too long. If you get a job you stay there for two or three years the most...two years is the most before the lead would get into you.[24]

Said later moved back to Adelaide and finally settled in Melbourne.

Mount Isa was similar to Broken Hill with large numbers of workers moving through the local labour market and not necessarily staying. Max Thompson had a diverse occupational history moving from town to town. Born in Lambing Flat in New South Wales in 1919, after war service (1939 to 1945), he worked at the coal

mines in Lithgow, on the Snowy River and Ord River schemes, arriving at Mount Isa in the 1950s where he worked at the concrete plant:

We rented a — they call them 'flats' — but it was a two storey shed. We paid thirty dollars a week for it…Thirty dollars! But you couldn't get accommodation.[25]

Rapid growth attracted large numbers of migrant workers. Many mining towns and industrial towns have a strong sense of themselves as crucibles of different nationalities. This can be expressed, and remembered, in a positive way. For example, there are specific ethnic-based clubs in Broken Hill, and there are Finnish churches in Mount Isa. These positive characteristics of multiculturalism sit uneasily alongside other experiences where migrant workers were placed on the fringes of the labour market and allocated the hardest, most dangerous work.[26]

The connections and flows of workers and their families are one set of experiences that turn our attention to externalities and the utilitarian demands of labour markets. These patterns need to be set against an internally directed process which saw many people develop attachments to their locality, often in a very short period of time. Local cultures and sensibilities established quickly, despite the pace of change and the extent of population movement. These towns, then, are more than collections of workers underpinning the principal industry. Municipal and town boundaries inspired identification with, and loyalty to, place just as the web of connections across a region meant that place and identity were experienced and lived in complex, sometimes contradictory ways. Progress associations, churches, sporting associations, friendly societies and trade unions were all early arrivals and organisational evidence indicates that roots were set down quickly. These developments were inspired by both a growing commitment to the locality and an effort to address the very real problems that came with rapid growth. The lack of a water supply, formed and metalled streets, and a sanitary service joined less specific but no less important issues such as the absence of friends and the need for the company of like-minded people in the organisations of civil society. Municipal government usually arrived within five years of a major mineral find to complete the picture.

Taken together the oral history interviews completed for this research also reveal this deep connection to place in all of the mining and industrial towns from the pre-existing townships to newly constructed, purpose built company towns. All respondents were engaged in their town. They had knowledge and opinions they wished to share. They recall their lives in vivid detail, in ways that evoke time and place. Margaret Jones, for example, came to Mount Isa from Brisbane in 1957 and remembered her first house as a young married woman:

It wasn't a flash house. It was a dirt floor. Tin walls and the windows were shutters that I pushed out… Over the back of the hospital. No hot water. In summertime when it was so very hot the pipeline was above the ground so when it was very, very hot. I had hot water in the pipeline [laughter].[27]

Asked how one could describe Mount Isa to an outsider, Sigge Lampen paused, before replying earnestly:

It's very hard....It is just a mining town where people drink and get carried away, and work, and you know. Look, in this town there are so many nationalities. I think it would be hard to explain Mount Isa to anyone.[28]

Their memories are embedded in place but they also reveal the kinds of connections that go beyond the limits of industrial modernity. Their lives are not contained or defined by the broader national, and cultural, assumptions about these places. Respondents often had relatives who moved from other mining towns and

these are small but powerful vignettes illustrating broader demographic patterns. Elizabeth Firth's mother came from Kadina in 1917, one of many South Australians moving to 'The Hill' from the early 1880s onwards. Her father was born in Broken Hill, but his family was originally from the Victorian goldfields.[29] High rates of migration, and the mix of nationalities also compromise the image of a stolid, monochromatic life, that is apparently the inverse of city cosmopolitanism. This is perhaps best exemplified by Sigge Lampen, a Finnish migrant who revels in his Mount Isa life. Having lived in Finland, Sweden, and Canada, as well as travelling extensively, he defines himself as a 'global citizen'.[30]

In strong union towns the working class held great sway in political as well as cultural life. Brass bands, Eight Hour Day parades, labour-run newspapers were common in Newcastle, Broken Hill, Rockhampton and Townsville. The code of 'respectability', a vital part of Victorian-era culture, was dominant though not uncontested. Respectability, in the hands of middle-class reformers, was a code for thrift, hard work, sobriety and close-to-godliness that was often critical and judgmental of working-class culture. At the same time, however, respectability was readily adopted by the working class and given new meanings. In many households spending sprees or a careless waste of resources could create hardship for families, particularly in light of the intermittent nature of waged income. In the hands of more radical, sometimes militant unionists, they took up the code of respectability as a way to argue for the dignity of manual labour. They used notions of respectability to argue for wage increases and better working conditions. Working-class families could be protected through wage justice, and respectability could be achieved if the relations between capital and labour were re-organised and put on a more just footing.[31]

Respectability also encoded a series of family and gender roles that were widely accepted in these towns. In the capital cities, aspects of the gender order were contested by first wave feminists from the late nineteenth century, but such debate rarely surfaced in the regional centres, much less in the more isolated towns. Respectability encoded the gender distinctions of a male breadwinner and a female housekeeper. This was given legal expression following the Harvester judgement in 1907. This was an award passed down by the Commonwealth Arbitration Court which decreed that a basic wage was defined by the amount a man needed to survive in a civilised community whilst supporting a wife and three children 'in frugal comfort'.[32]

From this followed a number of economic consequences. Men of all classes already experienced privileged access to the formal economy and the world of paid work, while women laboured in the town's homes or backyards in the informal economy. This became an ideal to which all classes aspired. Overall women constituted 20 per cent of the paid workforce in 1900, and their continued participation in the world of paid work was a necessity for many working class households. In mining and industrial towns, however, there were fewer paid work opportunities for women. In the cities younger single women could find employment in urban manufacturing. But in mining towns there was little paid work for women beyond domestic service. All mining work was for men, and most industrial work was for men as well.

Underground mining in particular was strongly masculinised and could be represented as both a heroic activity for 'real men' or as a victimised and dangerous occupation. Despite the increasing levels of mechanisation across the twentieth century, mining and construction was pick and shovel work; hard manual labour that taxed and tired the bodies of older men especially. This was true in all case study towns until the late 1940s when mechanical diggers, loaders, and trucks began to the replace manual work. This

point will not necessarily be repeated for every workplace so needs to be borne in mind when reading the specifics of each town labour market.

The struggle over occupational health and safety is a common theme whether it was in the mines, or in surface or smelter employment. Rates of death and injury from mining employment were high. It fired union agitation and campaigns including the famous 'Big Strike' at Broken Hill, the Mount Morgan lock out in 1925 and the Mount Isa dispute of 1964-65. The Australian Workers' Union (AWU) was an important representative of rural workers, including miners, from the 1890s, and it came to dominate union representation at all sites except Broken Hill. At 'The Hill' a very particular union formation developed which was distinctive to the town and forged a unique local alliance of workers with a specific local relationship to the Mine Managers' Association. This arrangement, which negotiated three-yearly agreements outside of the state-sponsored arbitration system, persisted from 1926 through to 1986.

Another common workplace experience was exposure to potentially harmful dust and fumes, created by mining, transporting and processing metal-bearing ores. This produced generations of miners with 'miners' lung', silicosis and phthisis. Many of the men coughed and wheezed their way through oral history interviews demonstrating the all too real legacy of industrial workplace hazards that are still with us.

Lead is one specific area of concern in metal mining and smelter towns. Awareness of the effects of lead dust first arose through workplace exposure. Port Pirie was an unfortunate pioneer is this regard with lead poisoning the subject of union agitation and a Government Royal Commission in the 1920s. When the Mount Isa lead smelters began production in 1931, workers in particular parts of the operation inhaled lead-bearing dust. A government survey at Mount Isa in 1933 found that 27 per cent of the workforce suffered from 'mild lead poisoning'.[33] From the 1970s and 1980s, the issue became a community-wide one with a focus on the blood-lead levels of children in particular. Concern about lead levels in children at Mount Isa continues, with disturbing regularity, to be raised by companies, governments and the media. Claims of lead poisoning and the damage to yet more generations of Mt Isa's children are greeted with the same scepticism and surprise that characterised industry and governmental responses since the 1920s. In this case, exposure to environmental toxins may well constitute another way in which these localities shape people, only this time a far more uncomfortable and disturbing factor which locals and outsiders alike might contest.

In Broken Hill one 1992 study found almost 20 per cent of children tested had blood lead levels above 25 micrograms per decilitre, at that stage the National Health and Medical Research Council's level of concern.[34] The rates are equivalent or higher at Port Pirie. This issue reveals complex relationships between company, community, state and expert advice, often with an overriding concern to maintain employment and production rather than address fundamental health problems. Dust-borne lead remains a problem in Broken Hill, Port Pirie, Queenstown and Mount Isa, meaning that children (especially Indigenous children) are still subject to potential harm from exposure. Another unfortunate result is that national media attention for these sites has highlighted these negative experiences, a grim and narrow representation of town life.[35]

Most of these towns were dominated by migrants of British origin and, increasingly, by the locally born non-Aboriginal population. There were still, however, pockets of non-Anglo groups, and Indigenous people living in and around these developing centres. Italians in Port Pirie mostly came from the small village in southern Italy, Molfetta, which possessed a long tradition of return migration from overseas parts to earn a

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living. In 1933 the Italians constituted a group of 214 out of a total population of 11,677. At Broken Hill groups of Italians, Yugoslavs, Greeks, Germans and Afghanis were locally present in significant numbers. Approximately 748 'foreign workers' out of a total workforce of 11,500 laboured on the Line of Lode in 1914. Of those only 104 spoke English fluently.[36] Likewise, local storekeepers sometimes complained of small shops run by 'foreigners' opening after hours, and employing non-union labour.

Ethnicity could become a significant point of division within the local community and within the local labour movement. This situation became more apparent after 1945 as larger numbers of migrants came to Australia. Finns, for example, were a significant part of the workforce at Mount Isa in the 1950s and 1960s. While there were strained relationships between Anglo and non-Anglo workers during the dispute of 1964-65, there were concerted attempts to overcome such divisions. Ethnic difference played out with a variety of experiences and left a range of legacies from the Afghani mosque on the northern edge of Broken Hill to the Finnish Lutheran and Pentecostal churches in Mount Isa.

After the upheaval of the second world war, the world economy settled into thirty years of sustained economic growth. This relative certainty underpinned strong wages growth and prosperity in many mining communities. Underground workers in places like Broken Hill and Mount Isa also enjoyed the benefits of the lead bonus, an over-award payment linked to the price of the base metal. In his detailed study of the lead bonus at Broken Hill, John Shields notes that between 1948 and 1966 workers were earning up £165 per annum in lead bonus, which represented as much as 50 per cent of their weekly wages. The figure rose and fell according to the lead prices but in this period the bonus never went below £67 per annum, or 16.3 per cent of total earnings. The bonus peaked in the mid-1950s and this was a strong reason for workers and their families to stay in Broken Hill, or move to the town. Elizabeth Firth married an accountant from one of the mining companies in 1956 at the height of the post-war boom. Although she had to leave her position in the office at one of the mining companies upon marriage, prospects were still good for the newly-married couple. They set about building their own house. She recalls that 'we were quite happy to stay here because at that time the wages were very, very good, in the mid-fifties the lead bonus was extremely good and it was a way of saving.'[37]

The suburban ideal, which flowered in these towns in the post-1945 period, was celebrated with particular zeal. The achievement of a 'normal' suburban existence in harsh inland locations represented a modernist taming of a wild environment. It was underpinned by wages, including a lead bonus, which were high for working class families, helping to offset the generally high cost of living. However, if suburbia was defined by the denial or absence of the realities of paid work, then the new suburbs never quite matched the ideal. The mines or smelters were never far away and were an ever present reality that might break the apparent peace of outback suburbia. Kambalda represents the strongest expression of the designed suburban ideal, an uneasy mix of corporate paternalism and carefully targeted control. And while Broken Hill, Mount Isa and Port Pirie continued to grow in the 1960s, and the new Kambalda was born in that decade, towns like Mount Morgan and Queenstown suffered a steady decline. Their ore bodies were coming to the end of their productive life. Eventually this led to mine closures in the 1980s. Even the fabulous 'Silver City' of Broken Hill declined from the 1970s and urgent efforts to diversify here, as elsewhere, started a new phase of existence. The dreams of great growth and progress always contained a flicker of doubt built on this reality. Such doubts became stronger in the 1970s.

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These mining and industrial towns, established from the 1880s through to the 1960s, were places where international trade, migration, and the influence of state and federal governments met the specifics of the local environment and culture. They are places that are permeated with capitalist and modernist ideals of industry, progress and profit. Money oils the wheels and civil society cements the foundations of these works as towns where people live, and where lifetimes are passed. These places were not simple nodes of capitalist production, barren and cultureless centres testament to the single-mindedness of industrialists. They were vibrant and contradictory places, enmeshed in a web of links to nearby towns and capital cities, to networks of migration and labour market flows. But at key points in that connected web of relationships these societies took root, building local distinctiveness, and establishing, if they were lucky, a life of their own beyond a workplace and a site of production. This is in sharp contrast to early 21s century practice where mining companies employ fly in fly out workers, and are generally less engaged in community formation. These patterns are widely remarked upon and will no doubt continue, justified on many grounds including financial and social. Yet the key implication for those interested in long run historical analysis of mining and community is that the rich heritage of town and community building that occurred in Australia, South Africa, and elsewhere will not be apparent from our current investment regimes. We will be all the poorer for the loss of this distinctive urban form – the mining town - which was often the major vehicle whereby regional areas beyond the capital cities were peopled.

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[2] B. Kingston, *The Oxford History of Australia, Vol.3, 1860-1942, Glad, Confident Morning*, Oxford University Press, Melbourne,1988, pp.38ff.

[3] *Australians: Historical Statistics*, p.148.

[4] Meredith & Dyster, *Australia in the Global Economy*: *continuity and change*, Cambridge University Press, New York and Oakleigh (Vic), 1999, pp.59–63.

[5] *Australians: Historical Statistics*, p.133.

[6] Peter Cochrane, *Industrialisation and Dependence: Australia's Road to Economic Development*, University of Queensland Press, St Lucia (Queensland), 1980. p.10.

[7] Phillip Lipton, 'A History of Company Law in Colonial Australia: Legal Evolution and Economic Development', *Corporate Law and Accountability Research Group, Working Paper No.10*, August 2007, Department of Business Law and Taxation, Monash University, p.11 cf.

[8] John Rintoul, *Esperance: Yesterday and Today* (Fourth Edition), Esperance Shire Council, Printed by Scott Four Colour Print Pty Ltd, Perth, 1986, p.109 & pp.215–216.

[9] D. Meredith & B. Dyster, *Australia in the Global Economy: Continuity and Change*, Cambridge University Press, New York and Oakleigh (Victoria), 1999, pp.4–5.

[10] See especially Lionel Frost, 'Across the Great Divide: the economy of the inland corridor' in Alan Mayne (ed), *Beyond the Black Stump: Histories of Outback Australia*, Wakefield Press, Kent Town (South Australia), 2006, pp.57–84.

[11] Erik Eklund, 'Managers, Workers and Industrial Welfarism: Management strategies at ER&S and the Sulphide Corporation, 1895 to 1929', *Australian Economic History Review*, Vol.37, No.2, July, 1997, pp.137–138 & F. Carrigan, 'The Imperial struggle for control of the Broken Hill base-metal industry, 1914–1915' in K. Buckley & T. Wheelwright (eds), *Essays in the political economy of Australian capitalism, vol.5*, Australian New Zealand Book Company, Sydney, 1983, pp.164 –186.

[12] Cochrane, *Australia's Road to Economic Development*, p.11.

[13] *Australians: Historical Statistics*, p.148.

[14] Jeremy Mouat, 'The development of the flotation process: technological change and the genesis of modern mining', *Australian Economic History Review*, Vol.XXXVI, No.1, 1996, pp.3–31.

[15] S. Ville & D. Merrett, 'The Development of Large Scale Enterprise in Australia, 1910–64', *Faculty of Commerce Papers*, University of Wollongong, 2000, pp.17–18.

[16] These paragraphs draw on the *Australian Dictionary of Biography* entries for William Knox (1850–1913), William Orr (1843–1929), Anthony Edwin Bowes Kelly (1852–1930) and Charles Rasp (1846–1907). See also

Jenny Camilleri, *In the Broken Hill Paddock: stories from the past*, published by the author, Broken Hill, c.2006.

[17] Ian Hore-Lacy (ed), *Broken Hill to Mount Isa: The Mining Odyssey of W.H. Corbould*, Hyland House, Melbourne, 1981, p.40.

[18] B. Kennedy, *Silver, Sin and Six Penny Ale: A Social History of Broken Hill*, Melbourne University Press, Carlton (Victoria), 1978, pp.21–24.

[19] John Kerr, *Mount Morgan: gold, copper and oil*, J.D & R.S. Kerr, St Lucia (Queensland), 1982, p.117.

[20] G. Blainey, *Mines in the Spinifex: The Story of Mount Isa Mines* (revised edition), Angus & Robertson, Sydney, 1965, p.115 & Hore-Lacy, *Broken Hill to Mount Isa*, p.191.

[21] N. Kirkman, *Mount Isa: Oasis in the Outback*, James Cook University, Townsville, 1998, pp.14–18. Mount Isa Mines Limited formally changed its name to 'MIM Ltd' in 1970 so the use of this acronym for an earlier period is potentially misleading. For the sake of brevity, however, I will use the acronym 'MIM' to cover the entire period of the company's history from formation in 1924 to its takeover by Xtrata in 2003.

[22] Western Mining Corporation Limited formally changed its name to 'WMC Resources Ltd' in 1996, though for the sake of brevity the acronym WMC to cover the entire period of the company's history from 1933 to its takeover by BHP in 2005.

[23] Lindesay Clark, *Built on Gold: Recollections of Western Mining*, Hill of Content, Melbourne, 1983, pp.1–17 & Don Reid, *They Searched: A History of Exploration within Western Mining Corporation Part 1 Sawdust and Ice: The First Twenty Years*, Western Mining Corporation, Melbourne, 1981, pp.2–5.

[24] Transcript of an Interview with Paul Said, (Interviewed by Barry York, 12 September, 1984), TRC 3582/2, NLA.

[25] Interview with Max Thompson (Interviewed by John Merritt, 5 December 2001), TRC 4822, NLA.

[26] See, for example, Christine Adams, *Sharing the Lode: The Broken Hill Migrant Story*, Broken Hill Migrant Heritage Committee, Broken Hill, 2004; Interview with Sigge Lampen, p.6 & Interview with Michael Jones, p.5.

[27] Interview with Margaret Jones, p.2.

[28] Interview with Sigge Lampen, p.6.

[29] Interview with Elizabeth Firth, pp1–2.

[30] Interview with Sigge Lampen, p.8.

[31] For insights see Janet McCalman, 'Class and Respectability in a Working-Class Suburb: Richmond, Victoria before the Great War', *Historical Studies,* Vol.20, No.78, April, 1982, pp.90–103 & S Macintyre, *Oxford History of Australia. Volume 4: The Succeeding Age, 1901 – 1942*, Oxford University Press, Melbourne, 1986, pp.48ff.

[32] Macintyre, *Oxford History of Australia*, p.43

[33] B. Penrose, 'Occupational lead Poisoning at Mount Isa Mines in the 1930s', *Labour History*, No.73, November, 1997, p.123.

[34] *NSW Government Lead Issues Paper*, NSW Government Printer, Sydney, 1992, p.35. The level of concern is now 10 micrograms per decilitre.

[35] See, for example, 'Study Confirms Mount Isa Lead Contamination', *ABC News online*, 22 May 2008, http://www.abc.net.au/news/stories/2008/05/22/2252611.htm [accessed 1 July, 2009] & 'Broken Hill leaves a

toxic question mark on indigenous children', *The Age Online*, 10 May, 2008,

http://www.theage.com.au/news/national/toxic-question-mark-on-indigenous-

children/2008/05/09/1210131265837.html [accessed 21 May, 2009]

[36] Kennedy, Silver, *Sin and Six Penny Ale*, pp.119 & 129.

[37] Interview with Elizabeth Firth, p.9.