Occasional essays on Australian regional communities and built environments in transition

Gwalia

Edited by Philip Goldswain Nicole Sully William M. Taylor
<table>
<thead>
<tr>
<th>Page</th>
<th>Title</th>
<th>Author</th>
</tr>
</thead>
<tbody>
<tr>
<td>vii</td>
<td>Acknowledgments</td>
<td></td>
</tr>
<tr>
<td>ix</td>
<td>Preface</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td><em>Introduction to Australian places, place-making and the politics of displacement in a transient society</em></td>
<td>William M. Taylor</td>
</tr>
<tr>
<td>15</td>
<td>‘Public photographs’</td>
<td>Philip Goldswain</td>
</tr>
<tr>
<td>45</td>
<td>The moral economy of prefabrication</td>
<td>William M. Taylor</td>
</tr>
<tr>
<td>73</td>
<td><em>Burning the bastards out</em></td>
<td>Criena Fitzgerald</td>
</tr>
<tr>
<td>101</td>
<td>From lords of creation to petticoat dominions</td>
<td>Clarissa Ball</td>
</tr>
<tr>
<td>129</td>
<td>‘The World’ and Charters Towers</td>
<td>John Macarthur</td>
</tr>
</tbody>
</table>

---

*The curious case of the Brown Hill Mine building and Kalgoorlie Health Laboratory, c. 1899–1923*
## CONTENTS

<table>
<thead>
<tr>
<th>Page</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>159</td>
<td>Mining, place and propriety in Queenstown</td>
<td>Stuart King</td>
</tr>
<tr>
<td></td>
<td><em>Architectural propriety and belonging in social and environmental contexts</em></td>
<td></td>
</tr>
<tr>
<td>185</td>
<td>On the edge of beyond</td>
<td>Nicole Sully</td>
</tr>
<tr>
<td></td>
<td><em>Mining and painting the Australian landscape</em></td>
<td></td>
</tr>
<tr>
<td>231</td>
<td>Designing way out</td>
<td>Lee Stickells</td>
</tr>
<tr>
<td></td>
<td><em>Shay Gap and the ‘living laboratory’ of the 1970s</em></td>
<td></td>
</tr>
<tr>
<td>267</td>
<td>Back to the future</td>
<td>Mathew Aitchison</td>
</tr>
<tr>
<td></td>
<td><em>FIFO, mining and urbanisation in Australia</em></td>
<td></td>
</tr>
<tr>
<td>303</td>
<td>About the authors</td>
<td></td>
</tr>
<tr>
<td>307</td>
<td>List of illustrations</td>
<td></td>
</tr>
</tbody>
</table>
Acknowledgments

This collection of essays was made possible by a collaborative research award and funding provided by The University of Western Australia and University of Queensland. This made possible the travelling workshop in the WA goldfields for five days in September, 2012. Additional funding for this project was provided by the School of Architecture, Landscape & Visual Arts (UWA) and the Centre for Architecture Theory Criticism History (UQ) as well as the Australian Research Council (ARC). The editors gratefully acknowledge support provided by Anne Brake of the National Trust (WA), Alec Coles and Ray Coffey of the Western Australian Museum, and staff at the WA Museum in Kalgoorlie. Research and additional assistance was provided by Tahmina Maskinyar, Oenone Rooksby and Joely-Kym Sobott.

‘Out of Place (Gwalia)’ is envisioned as the first of a series of travelling workshops and occasional papers, involving different assemblies of authors and settings, exploring histories and theories of places and related notions as they help shape understanding of life in contemporary Australia.
Preface

The following collection of essays explores historical, geographical and cultural factors contributing to our understanding of places and settings characteristic of Australian transient communities. Beginning with a travelling workshop in the goldfields of Western Australia, essayists were invited to participate in a rather anachronistic project. They were asked to draw critical insight into life in contemporary Australia out of a brief encounter with Gwalia (an archaic name for Wales), a remote place in the WA shire of Leonora, mostly abandoned, but surrounded by a dispersed fly-in fly-out community. Gwalia provided a not-so-near middle ground for contributors coming together from different parts of Australia, and a subject of recent social history for which only dispersed material artefacts and fading personal memories remain.1 Located 233 km north of Kalgoorlie and 828 km east of Perth, the venue for the workshop at the Leonora-Gwalia Historical Museum and ‘Herbert Hoover House’ overlooking the Sons of Gwalia goldmine was chosen partly for its geography and partly for its history. Long inhabited by Aboriginal people who remain the traditional custodians of the land, the area was traversed by Sir John Forrest, adventurer and first Premier of Western Australia, in 1869. Gold was discovered there in 1897 and subsequent waves of Australian and European migration and settlement followed the fortunes of the goldmining industry. Geologist and prospective United States president Herbert Hoover was briefly resident there in 1898, arriving to develop the mine and build a house for himself, the mine’s engineer. At its peak, the site had a population of slightly over 1,000 people. The mine was closed
owing to diminished profitability in 1963 and residents packed up and left almost overnight.

Gwalia and the goldfields were also chosen for the workshop, more broadly, for their resemblance to other Australian settings and regions bearing the traces of boom-and-bust economies and the movements of people that invariably form part of these economies. In these settings, the built environment provides evidence of the consequences for Australians mostly of European descent, past and present, of living remotely and subject to extremes in what Dorothea Mackellar eulogised as Australia’s ‘wide brown land’.²

As a guard against undue theoretical abstraction or poetic license, the settings explored by our essayists are brought down to earth by acknowledging their parallel histories of rapid urban growth and common decline, demanding natural environments and the complexities of their mostly-migrant communities. Readers will hopefully forgive us if there remain a few leaps of imagination behind our comparison of these places, for comparisons that seem too broad or which overlook idiosyncrasies of one setting or the other. In our defence we could argue that the history of the imagination, particularly where it features in the ‘urban imaginary’ of these places, is not always as easy to discount as efforts aiming for more ‘objective’ history may dictate.

The places that feature in this book including Gwalia and Kalgoorlie in WA, Charters Towers in Queensland and Queenstown in Tasmania, provide opportunity to revisit sites of Australian history by writers with interests in architecture, landscape theory, social history and visual arts. They also provide us with a springboard for exploring pressing issues for contemporary Australians and their counterparts in other ‘neo-European’ or ‘post-settler’ societies.

2 Dorothea Mackellar, ‘My country’ [a poem], first published as ‘Core of my heart’, 1908, in the London newspaper, *The Spectator*. 
Introduction to Australian places, place-making and the politics of displacement in a transient society

WILLIAM M. TAYLOR

Recent commentary in Australia on the forward trajectory of the nation’s mining boom elicits concerns for the movements, economic prosperity and wellbeing of the nation’s transient workforce, particularly its community of fly-in fly-out (FIFO) workers. Australian newspapers, radio and television routinely report on the next boom and predict the next bust. They entertain readers and viewers with news of big profits, extravagant salaries and air-borne commutes to destinations whose names invoke both far-away riches and the tedium of hard work, long hours and temporary digs. Otherwise obscure sites such as Karratha, Paraburdoo and Moranbah feature on the nation’s front pages and airline flight schedules with increasing regularity. Most likely, in former times of frenzied industry, towns such as Gwalia in Western Australia’s goldfields or Charters Towers in Queensland’s north were similarly evocative, encouraging the rapid spread of non-Indigenous settlements in places most people would not have known about or preferred not to go to. The hasty withdrawal of Gwalia’s residents following the mine’s closure in 1963 was perhaps not desired, but necessary owing to the fleeting mining economy and a relatively unforgiving natural environment that required routine supplies of capital, goods and water to make familiar modes of settlement possible.

Today, looking down the other end of the flight paths towards Australia’s capital cities and regional centres, a parallel set of
concerns for the nation’s overwhelmingly urbanised population appears. It comes with a lot of number-crunching detailing the myriad effects of population growth and suburban sprawl and patterns of, geographically (inward and outward) and socially (upward), oriented mobility, along with the arrivals of skilled and not-so-skilled migrants – movements all lightened by reports of quality of life indexes. Brisbane overtakes Perth as the most favoured destination for interstate migration. Melbourne beats Sydney in the league tables as Australia’s most liveable city. Adelaide continues its slow but graceful decline, while Tasmania makes for another case entirely. Somewhere, possibly between the abstractions of work and leisure, at some point on a graph or during breaks in removals, there is a moment’s reprieve. There appears a pause – a state of haphazard equilibrium – in which Australia reaches a new level of productivity, makes room for its nine millionth household or welcomes its twenty-two millionth resident. History suggests additional parallels.

Shortly after the discovery of gold in the Victorian fields in 1851, for example, the economic and social effects of the ensuing boom were witnessed in the colony’s capital. Melbourne became a ‘marvellous’ place as well as a restless, anxiety-ridden one, with its much embellished building stock and burgeoning and (for some) unwholesome population, expanded commerce and rising prices for houses and nearly every other commodity. Shortly after the Kalgoorlie rush began in 1893, plans were commissioned to build the pipeline that eventually delivered water to the WA goldfields from Perth almost 600 kilometres away, thereby ensuring the near-miraculous development of industry and towns along the pipeline’s path (Gwalia was too remote to benefit from this source of supply). As Philip Goldswain writes in his essay on the souvenir photographs commemorating the opening of the water scheme in 1903, the images
were accompanied by statistics describing each mine, quantities of shares issued, tons of ore raised and gold bullion produced, the number of leases held and men labouring to deliver the dividends paid out to shareholders. Like other photographic collections of the period, the album’s unabashed example of economic, civic and political boosterism also reveals to the discerning eye signs of impending social and environmental distress.

Perhaps owing to the size of the Australian continent and its geography of mostly coastal urbanisation and thinly populated interior regions, the conceptual and visual patterns created by the aforementioned movements and historical developments reinforce statistical abstractions. Patterns coincide with simplistic thinking that says you’re either here or there, where things are ‘happening’ or not – you’d better join us or get out. Perhaps, also, owing to the marginalisation of Aboriginal culture and the tendency to de-historicise mainstream western values – by treating the meanings of places as given rather than as social constructions and therefore historically contingent – opportunities to reflect on the ideas accompanying these movements are few and often limited to thinking about consequences in empirical and mostly causal terms. Accordingly, we know Sydney has something to offer partly because visitor surveys tell us so. We come to understand other places, albeit partially, through a selective lens by recognising patterns of population growth and decline, and the effects of either trend on public perceptions of just where a community stands in overlapping national, cultural and urban imaginaries. Of course, not every phenomenon – particularly the human consequences and experiences of mobility – is captured by statistics. Often there is simply bewilderment over the day-to-day reality of change. As one resident and shop owner in the central Queensland coal-mining
town of Moranbah (population 8,966 in 2011) put it a few years ago during the height of a boom there:

Well I don’t think Moranbah’s the real world, it’s as simple as that. The wages are high, I just don’t think it’s the real world here. The recession is extremely bad for an awful lot of people, but as yet, no, I don’t think it’s come to Moranbah. There’s just so many new mines opening up. You would have travelled out on the road and you would have seen so many signs left and right, this mine, that mine, I sort of lose track of all those mines.¹

Common to points of departure and points of arrival, both obscure places experiencing economic boom and sites of cultural industry in Sydney, Brisbane and Perth, are settings and material artefacts making for the nation’s built environment. Settlements and their infrastructure (including the roads to ‘all those mines’), buildings and architecture comprise an underlying material domain of ‘things’ that make evident demographic and social dynamics that support and possibly challenge narrow (i.e., dichotomous) thinking by opposing one place to another. We know this domain matters, partly because economists have put a price on it. According to one estimate, the replacement value of existing building stock in Australia lies in excess of 5.7 trillion dollars. Consequently, architects and other design professionals need to be ready to make the built environment adaptable to present and future challenges, including wholesale economic and global climate change.²

As Mathew Aitchison, another essayist in this collection, reminds us, Australia’s capital cities are closely linked to the nation’s remote and regional communities in fundamental ways. These can be thought of as economic links, but there are also aesthetic and possibly
other connections. In a more complex picture, shared patterns of settlement, buildings and architecture connected to global forces are also worthy of study. Periods of construction in metropolitan centres, for instance, can result in architecture that manifests and symbolises flows of capital along with local and national aspirations, however objectionable and unnecessary some may find the aesthetic reach of high-rises such as Perth’s new BHP Billiton headquarters or Brisbane’s 222 Margaret Street Tower (which promises to be the tallest in Australia) to be. Waves of economic and creative capital have flowed in multiple directions. In his essay on Shay Gap in the 1970s, Lee Stickells describes how the planned mining community in WA’s Pilbara region represented what the editors of Architecture Australia called ‘urban development in microcosm’ where new ideas and approaches to settlement design, thought to be appropriate for both the nation’s suburbs and its mining towns, were emerging. And, as Nicole Sully’s writing on mining and art in Australia suggests, the kinds of iron-red landscapes framed by Shay Gap’s new picture windows routinely appear today in the corporate lobbies and art collections of Australia’s mining giants, representing another kind of aesthetic, specifically visual traffic governing the appropriation of remote places by means of their pictorial representation.

Transience and making place
Underpinning concerns for the consequences of Australia’s mobile workforce today is arguably broader and enduring ambivalence over conditions of transience in Western society. Behind concerns over losing track of ‘the real world’ in times of demographic and social change, traces of uncertainty seem to persist from previous eras about the moral character of transient people and communities which, without a fixed address, appear to be groundless. Apprehension arises
in contrast to the positive values commonly attributed to sedentary cultures, a historical connection based on politics and commercial interests. Behind the social engineering and experimental architecture at Shay Gap in the 1970s, for instance, there was the project to make a community ready and willing to live and above all to work in the desert. A comparable undertaking seems evident in the planning of nineteenth-century British and North American company towns, where self- and class interests were often only vaguely disguised by acts of public philanthropy directed towards building workers a home.

Routinely mixing media and messages, western art frames transient experience in ways that obscure its underlying causes and moral consequences. Some works appear to aestheticise (possibly fetishise) mobility and the passing of time, as though it were possible to fix onto a single canvas or within a contrived landscape a number of dynamics accompanying human settlement – without asking if any one of these forces contribute to the common good. Australian art representing mining and mined landscapes includes works which inspire fascination with remote places and their transformation by human industry on a monumental scale – an alchemy which makes these places appear ‘useful’ for urbanised society. Edward Burtynsky’s series of photographs of the Pilbara and WA goldfields called ‘Australian Minescapes’ (2008) manifests an act of aesthetic appropriation comparable to British sculptor Antony Gormley’s ‘Inside Australia’ installation on Lake Ballard situated between Kalgoorlie and Gwalia. The open-cut mines and tracks gouged into the earth left by heavy earthmoving equipment in Burtynsky’s photographs have their material counterparts in the steel high-rises and freeways of Brisbane and Perth. Gormley disperses digitally-manipulated and withered cast iron facsimiles of townspeople from
nearby Menzies across the salt lake. Seen from the lake’s edge or from the top of Snake Hill, the collection is mirage-like, an artistic tour de force and statement about the tenuous grip Europeans have on the land, but it also represents a sleight of hand given the tourist initiatives that have co-opted the figures and insured their continued emplacement there as ‘heritage’.

Turning from art to architecture, the neo-classical building, elegant arcade and shops of the Charters Towers Stock Exchange, which dates from 1888 during the gold rush centred on the Queensland town, is commonly viewed by tourists and heritage experts as a sign of the immense wealth and civic pride generated by the region’s mines. However, as John Macarthur’s essay argues, the building was much more. An inventive exemplar of late nineteenth-century urban and colonial tastes, it also contributed to emerging economic and communication networks that pulled distant sites across Australia and throughout the broader British Empire – indeed around ‘The World’, as the Stock Exchange became known – together in one place. This was largely achieved by means of the electric telegraph and interconnected exchanges in European and North American cities, by waves of migrant capitalists and investment, and by widespread speculation in shares. However, the globalisation that brought commercial centres and investors together at Charters Towers and its Exchange also contributed to centripetal forces associated with rival economic interests and separatist regional and national political agendas.

Shifting the scene from Queensland’s tropical north to Tasmania’s remote west coast, essayist Stuart King writes about Queenstown which serviced the Mt Lyell gold and copper mines and rapidly emerged as the principal town of the area. Surveyed by the Tasmanian colonial government in 1895, three years later Queenstown possessed
INTRODUCTION

many fine public buildings, churches, banks, theatres, hotels, businesses and shops together comprising a lively civic and commercial centre. Against this backdrop of rapidly rising prosperity, King offers a novel reading of architectural ‘propriety’ and belonging in relation to a matrix of political, economic and social factors and changing environmental conditions associated with mining in the region. Guiding the design, placement and ornamentation of a building, the aim of ‘propriety’ might be seen as a precursor to contemporary interests in vernacular building and regionalist architecture. However, drawing on the ecologically devastated landscapes near Queenstown, the deforested and copper-poisoned slopes of its mountains, King creates a far more complex picture of place-making.

Both Charters Towers and Queenstown are important sites of Australian mining and building heritage, while their respective histories of boom and bust allow for additional assessment of economic and environmental dynamics impacting on these and comparable communities in Australia.

The politics of displacement

For nearly three decades, research into the built environment, including studies of urban planning, architecture and landscape theory, has been shaped by interests in ‘place’ and related terms such as ‘place-making’, ‘sense of place’ and ‘placelessness’. In some ways similar to environment-behaviour studies (EBS) favoured by cultural geographers (including Amos Rapoport at the University of Sydney in 1969) but less precise as a source of analytical methods, these interests focus on settings for human activity. This is where material artefacts, including the fabric and spatial entities of towns, cities and regions, manifest dynamic systems accompanying human settlement. It is where (as with EBS) we can choose to study ‘the
linkages, proximities and separations among settings, the nature of boundaries and how these are related, in terms of the organisation of space, to the organisation of time, communication and meaning, and the intervals between people and people, people and things, and things and things'.

Research into place attempts to bring together different critical frameworks including the empirical (geographical and spatial), temporal, and subjective aspects of settlement, the last of these including experiential qualities of settings and efforts to ‘make place’ a source of community, belonging and collective identity. There are parallel movements in multiple practical domains. For example, aiming to promote this kind of holistic approach to culturally significant sites (as their status is commonly presupposed), tourism authorities in Queensland have devised a ‘Ghosts of Gold’ itinerary for Charters Towers which promises a “whole of town” experience for visitors.' A community and university that are often maligned for being neither here nor there, Canberra and the Australian National University recently played host to a symposium on the human dimensions of the city in the year of the capital’s centenary. The ‘Shaping Canberra’ conference was poised to:

…generate new national scholarly discussion about the lived experience of Canberra as a place, home and capital. It starts from the position that the local and national dimensions of Canberra are not opposing or even separate aspects, but deeply entwined.'

However, neither can a setting be comprehensively known by means of a single map nor a common experience of a place readily predicted, so that one can question what purposes and possibly special interests are fostered by promotions of these kinds.
More than one commentator has observed the indistinctiveness of ‘place’ as a descriptive term and material localisation of dynamic systems. Amos Rapoport once described the trend as ‘worrying’ though his concern largely stems from a scholar’s expectations for precise terms and well-formed research methods. Clearly, interests in place and related terms highlight and have helped shape currents of inquiry across the humanities, drawing legitimacy (if not clarity) from the elusive goals of ‘multi-’, ‘inter-’ or ‘intra-disciplinarity’, as academic fashion has named these means of achieving comprehensive understanding. The derivation and choice of this nomenclature highlight a paradox at the heart of any epistemology of knowledge, a challenge identified by phenomenologist Edmund Husserl when he asked how can ‘reason and that-which-is be separated, where reason, as knowing, determines what is?’ In other words, how is comprehensive understanding of a place possible, when it begs for reasoning opposing a given setting to other ‘non-places’ or to displaced communities, including ones characterised (or traumatised) by acts of displacement, forced migration, violent eviction or oppressive social convention? Indeed, interests in place in the humanities may underscore a kind of reactionary stance towards modernity and attendant processes such as industrialisation, urbanisation and globalisation. This is a position which can also be seen, at least partly as a response to philosophical problems associated with writing about historical change and to challenges faced by urban planners and architects when designing for unsettling times.

In one recent scenario, Australians were told they no longer live in cities and towns as such. Urban planners, architects and other design professionals are no longer expected to create urban precincts, buildings and interiors alone. Rather, the object of design is more elusive. Australians, like many other people, are encouraged
to design and live in places. According to one recent intra-agency agreement titled ‘Creating places for people’, the aim is to bring together urban design practitioners and community, business and professional organisations as well as local, state and federal governments to encourage ‘excellence and collaboration in the design and custodianship of urban places’. These are conceived as ‘localities in which people live, engage with each other and engage with the physical space around them’.

There are historical grounds to question this aim and conception, or at least to caution against scholarly hubris and over-confidence by designers employed to give them form. In my own essay in this collection, I write about the portable and prefabricated house in colonial Australia. I propose that the architectural historian’s dual faith in their seeming practicality and the resourcefulness of the migrants who imported and used them is discredited by the structure’s engagement within multiple economies. Among these is a ‘moral economy’ directed towards making up people of a particular kind. These were settlers expected to come to Australia equipped with what were regarded as typically Anglo-Saxon character traits of foresight and perseverance, the forebears of today’s mobile workforce demanded by corporate managers and politicians ranged across the political spectrum.

The fantastic prospect of mining camps and even entire towns made of prefabricated houses appearing to rise overnight, fails to dispel fears recorded in archives over the negative impact of gold rushes and migration to and from established communities. Clarissa Ball writes on the myriad anxieties preoccupying metropolitan elites during the 1851 Victorian gold rush, including challenges to social convention and norms of ‘feminine’ conduct, as Melbourne women took on the jobs men abandoned as they left to work in the mines.
INTRODUCTION

Historically, modernity and modern mobilities have been established on gendered associations between certain places and people; hence, among other common associations, one learns that ‘a woman’s place is in the home’.

Criena Fitzgerald’s writing on the Kalgoorlie riot of 1934 intersects with several other essays in the collection, including the previous two. Fitzgerald demonstrates that ethnic identities and racism were no less formative of social dynamics shaping life in mining communities, than belief in the Briton’s enterprising character and convention requiring that British men and women conduct themselves in distinctive ways. The rioting mob, which left an uncertain number of people dead or injured and the houses and businesses of the Yugoslav and Italian migrants burned out, left evidence substantiating common claims that multiculturalism contributes to Australian heritage, including, at times, its unsavoury legacy.

The stories found driving through Australia’s goldfields are not only subjects of curiosity and nostalgia. They also evince pressing social and environmental concerns attending the boom and bust of communities, land degradation and reclamation and other, less tangible, human consequences of what Geoffrey Blainey famously termed the ‘tyranny of distance’.

Features of life in much of regional Australia seem heightened in these places. Our own largely Western and precarious hold on the land seems attenuated while parallels may be drawn and lessons learned from the exploitation of Australia’s remote and mineral-rich regions and those of other countries. To survey the historical circumstances accompanying such large-scale enterprise, including the provenance of settlements that appear in this collection, will hopefully generate new and innovative opportunities to explore such issues.


‘Public photographs’

*a serial representation of Kalgoorlie, 1893–1903*

PHILIP GOLDSWAIN

By the late 1890s photography, through its economic and technological accessibility, had established itself as the dominant mode of representation in the mining boomtown of Kalgoorlie in Western Australia. In the decade after the discovery of gold, more than thirty photographers and commercial studios documented Kalgoorlie’s urban and industrial development.¹ This resulted in the creation of a substantial visual ‘archive’ of the town and its citizens in which we can locate the significant events that mark Kalgoorlie’s early and rapid growth. The extent of this archive poses the question of how to make sense of the individual images contained within it and what they might tell a contemporary viewer about the unique urban and industrial conditions of its creation. One strategy, which avoids the dilemma of attempting to decipher the intent of individual images, is to investigate the photographs that coalesce around an event, the manner in which they might be organised for publication and the understanding of a place and its people created by such a grouping.

This essay investigates one such collection of photographs. In 1903 the Chamber of Mines of Western Australia marked the opening of the Goldfields Water Scheme by publishing a small-format forty-two-page souvenir photographic album.² It was distributed to more than 200 visitors from Perth and eastern Australian states who, after witnessing the opening of the Water Scheme on 24 January, spent two days touring the underground mines of the ‘Golden
Figure 1.1

Cover, Western Australia Goldfields Water Scheme: A Souvenir of the Official Opening and Visit to the Mines of the Golden Mile, 24th–26th January 1903
Mile’ surrounding Kalgoorlie and its twin city Boulder. The album consists of a short introductory text, which reproduces former WA Premier Sir John Forrest’s speech at the opening of the Scheme, views of Kalgoorlie and Boulder, photographs of eleven mines and group portraits of visiting parties who attended the ceremony. For most mines there are two images – one portraying their industrial beginnings and a second, recent photograph taken in 1903 – described by the Perth newspaper *The Daily News* as ‘early and modern views’. The paired photographs are followed by a page of statistics for each mine which outlines the amount of capital invested, the number of shares issued, the land area of leases, tons of ore raised, thousands of men employed, gold bullion produced, and dividends paid. Concluding the album is a list of the gold-producing regions of Western Australia that highlight the East Coolgardie Goldfield’s prominence in the production of the precious metal.

Despite the considerable achievements realised by its completion, there is not a single image of the pipeline in the Souvenir whose focus, rather, in weight of images and text, is set upon the goldmines and their visitors. The curious visual absence of the pipeline draws our attention to the Souvenir’s attempt to shape the perception of a place and an event through the selection, organisation and presentation of photographic images and text. Instead of a visual celebration of the achievements of the pipeline, the album takes advantage of the combination of text and image to present to the reader a more complex message of continuity, change and the connection between places on the edges of a colonial society.

Following the arrival of the telegraph line in 1894 and the railway line in 1896, the Goldfields Water Scheme was the last piece of networked infrastructure that connected Kalgoorlie and the eastern goldfields to Western Australia’s capital Perth. By the time the
Scheme opened, Kalgoorlie and Boulder were already serviced by a mining railway, electric tramways, a council-run power station and the ever-shifting temporary rail system of the ‘woodlines’ which provided timber for the steam engine boilers and water condensers of the Golden Mile. The Scheme required water to be pumped uphill from a dammed reservoir outside of Perth for almost 600 kilometres, the greatest length of freshwater pipeline that has ever been accomplished. The project was described as a ‘scheme of madness’ and subjected to a concerted press and political campaign against its construction.

However, in the Souvenir, the pipeline remains hidden, both absent from the collection of photographs and buried in the ground as it passes through Kalgoorlie. The pipeline’s achievements – the distance it travels, the labour required to realise its construction and the political capital expended for its completion – are a challenge to the representational capacities of the camera. Other publications which celebrate the opening of the Scheme, such as the ones printed by the Kalgoorlie newspaper the *Western Argus*, find some pictorial potential in these achievements as they capture the architecture of the Scheme’s pumping stations, the labour required by the pipeline’s construction as well as portraits of political protagonists such as Premier Forrest and the chief engineer C. Y. O’Connor. In contrast to the ‘ordinariness’ of pipeline, the mining infrastructure of the Golden Mile is impressive in its industrial scale, mechanical complexity, its material requirements and outputs. These are qualities that are more easily photographed and are amplified when the ‘modern views’ are compared to early images of the mines.

The photolithographic reproductions in the Souvenir fall into a category of images that historian Martha Sandweiss calls ‘public photographs’. These images, largely produced by commercial
photography studios, were ‘designed for widespread consumption and intended to pass before the eyes and into the hands of strangers’ and were made with an ‘awareness of the marketplace’.

Public photographs were produced as much to record the current state of a place as to ‘boost’ and to shape ‘the perceptions of the future possibilities’. Anne Macaulay, in her study of nineteenth-century commercial French photography, argues that a ‘successful [commercial] print…hinged on its intended use and audience’.

Because the commercial photographer relied on the taste of the user for their success, images like those contained within the Souvenir offer a more focused opportunity to understand the intent of the photographers, the aspirations of the compilers and why they thought these images might appeal to their audiences. Macaulay suggests that ‘even with the uniformity of commercial production…[there] are clues to a society’s values and self conceptions’. This is especially telling in the case of the Souvenir when considering the large number of images produced by Kalgoorlie’s commercial photographers, from which the compilers of the Souvenir could have chosen to depict the towns and the mines.

The nature of commercial photography, Macaulay says, ‘dealt more with the material realities of everyday life’ such as ‘work, the transforming urban environment, the up-to-the-minute and the modish’. Miles Orvell argues that ‘commercial photography during the latter decades of the nineteenth century had specialised in industrial subjects and railroads as part of a regional catalogue of sights that would interest the tourist or represent region features’. Mineral-driven boomtowns, such as Kalgoorlie, with their rapid urban and industrial development, present an amplified experience of these subject matters and states. Peter Bacon Hales further links urbanisation, ‘boosterism’ and image-making when he argues that
the ‘photographic studio (was) a stimulus for urban development’ where depictions of American cities were ‘visual fruits of technology pioneered, produced and marketed there – themselves pride and proof of American urban progress’.

When such public images are arranged into what Sandweiss calls ‘serial images’, where groups of images are organised and published together, they take on ‘added meaning’ and become able to ‘narrat[e] more complex stories through their relationship with other images’. Alan Trachtenberg also suggests that the organisation of the work of commercial photographers into ‘constructions, groups or images shaped or edited as albums, books or photo-stories’ can be used as ‘another resource…for making sense of…life in front of the lens’. Sandweiss’s use of the term ‘serial’ when referring to adjacent images, whether on the same page or across several, offers the opportunity to draw on broader ideas of seriality, especially as it stood in the late nineteenth century as a cultural phenomenon, which was concerned with temporality, sequences and continuity.

While Sandweiss’s use of the term ‘serial’ is understood in terms of the adjacency of multiple images to one another, the more common usage of the term refers to ‘serialisation’ or the division of a narrative across time in successive instalments. In a broader context, serial can also be seen as a ‘range of practices’ that pose a set of ‘pervasive and prominent questions about continuity versus discontinuity, the play of difference through standardised objects and the sequential display versus the array that could be seen at a glance’.

Despite the early arrival of the telegraph in Kalgoorlie and the potential that this ‘technolog[y] and system…of knowledge production and communication’ had and the opportunities it permitted for almost instantaneous communication, the residents of Kalgoorlie had become accustomed to the extended narrative of
news and fiction that was found in newspaper publications. Both Kalgoorlie’s weekly and daily newspapers, *The Kalgoorlie Miner* and the *Western Argus*, printed serialised fiction and the *Western Argus* frequently serialised news stories, separating text and images across its weekly editions. While the photographs were captioned, the separated images printed a week later were not accompanied by any descriptive text that linked them to the previous issue. This required the reader to connect the image and text across the space of a week. The Souvenir and other publications that celebrated the opening of the Scheme are ‘serialised’ over an extended period of time and across space. Although the opening of the Scheme took place on 24 January it wasn’t until almost a year later in December 1903 that the Souvenir was published, on the other side of the country, by the Melbourne printers F. W. Niven & Co. Even the more timely publication of the news of the opening by the *Western Argus* was still spread over three issues of the newspaper. The first issue printed a photographic supplement on the Tuesday prior to the opening, a number of articles reporting the events appeared on the following Tuesday, while a fortnight after the opening, twenty-two images (including many subsequently published in the Souvenir) were printed in the newspaper. In this final issue, the images were captioned and each page on which they appeared was titled ‘The Goldfields water supply scheme’. The images were not accompanied by explanatory text. Instead they sat among reports of the events of the Warden’s Court, the activities of the Manchester Unity Independent Order of Oddfellows and the news of a local marriage. The reader is required to connect the separated text and image to have a complete understanding of the event. This is a continuation of earlier patterns of ‘serialisation’ in Kalgoorlie of events such as the arrival of the train. The *Western Argus* reported
this event, in both texts and images, across eight different issues of the newspaper beginning a few days after the train’s arrival on 1 September 1896 and continuing for more than two months until mid-December. While acknowledging the technological limits to the rapid development and printing of photographs, this does suggest an audience customised to serialisation, as Linda Hughes and Michael Lund propose as one of the ‘fundamental tendencies in the age at large’.20 John Tresch argues for a more encompassing ‘serial imagination of society’ that was grounded in the experience of serial publications.21

Inherent within the Souvenir, and the serial more broadly, is the form’s engagement with time within a century of dramatic changes in the conception of the temporal, which at once contracted and but also dramatically expanded.22 While the invention of the railway sped up the ‘sense of time’s passage, new work in geology, history, archaeology and biology, acted to emphasize the immensity of time’.23 These contradictory changes in the perception of time are heightened at the mineral-driven boomtown whose rapid development condenses urban ‘time’ but whose extraction industries reveal the immensity of the geological age of the land. An aspect of seriality, which emphasises the temporal while making coherent the present and the past by co-locating them, anticipates a future with the promise of the next instalment of the sequence; a reassuring notion for community dependant on the uncertain contingencies of mining.

The repeated sequence of four images and statistical information for almost all mines in the Souvenir reinforces the notion of the widespread success of the field as well as that of individual leases. This draws our attention to the notion that the serial story ‘was not always a self-contained…entity’ but a ‘reading process embedded in a
specific material framework’ and the Victorian serial literary text was ‘surrounded by other texts and pictures that inspired a more complex, multifarious response’. In the history of science, serial ordering and its creation of visual ‘arguments’ lead to ‘claim making’. In the case of the Souvenir the viewer understands that the sequence of images and text emphasises the continuity of development of the urban and industrial landscapes across time. The sequence starts with an image of the mine’s early days, followed by a contemporary image, then its productive statistics and finally a group portrait. These represent in a temporal sense the past, the present, the past, and finally the present and the future combined in the image of the visiting party who are viewing the mines not only as part of the industrial spectacle of the present but also anticipating the possibilities of the future. This is made explicit by the text of the Souvenir when it suggests that visitors ‘might form an idea of the potentialities in the future’. Further, the introductory text of Sir John Forrest’s opening speech locates the listener and reader simultaneously in the past and present as it reminds them of the transformation that has taken place:

the visitor that will learn with astonishment that nine years ago this place was absolutely unoccupied and unknown, and was in reality an arid wilderness; that within a radius of 30 miles from here there is now a population of 50,000 people…

This concern with temporal continuity can be found in the broader pictorial representation of Kalgoorlie. By the end of the 1890s, visual tropes were already established in Kalgoorlie that exploited what might be best described as a ‘comparative’ or ‘temporal’ seriality in an attempt to depict the ‘remarkable’ progress of the town. As early as 1898, just five years after the first discovery of gold, The Western
Figure 1.2
Hannan Street, Kalgoorlie and General View of Boulder, with the Mines in the Background from the Souvenir
Figure 1.3
Unknown Photographer, York & Oriental Hotels, Kalgoorlie (Series G), from the series 'The Austral views of Perth, Fremantle and towns on the Goldfields'

Figure 1.4
Unknown Photographer, Hannans [sic] Street, looking East, Kalgoorlie (Series G), from the series 'The Austral views of Perth, Fremantle and towns on the Goldfields'
Australia Goldfields’ Courier published two images of the town’s main thoroughfare. One photograph titled ‘Hannan Street in the early days’ depicted the street looking west. The street is sporadically lined on its southern edge by unadorned, white canvas buildings—many not more than tents—while a group of men stands in the street’s centre. These simple structures are clearly visible despite the poor printing of the photograph. The northern side of the street is obscured in the darkness of afternoon shadow while three mature salmon gum trees can be seen in the middle of the street. The second photograph, at the bottom of the page and titled ‘Hannan Street – present day’ looks east up the street in the direction of Paddy Hannan’s first alluvial gold find. The canvas buildings have been replaced by more robust timber buildings, which form a continuous built edge to the street. The recently opened brick and stone Palace Hotel now occupies the corner with Maritana Street. The trees have been replaced by telegraph poles and any remnant of the natural environment has been cropped from the image. The wide space of the street is still used as a gathering place and among a group standing in the street a man in a white suit clearly stands out in the late afternoon shadows. While depicting roughly the same section of street, the photographic scenes are so physically different from one another as to be unrecognisable in comparison. The only ‘afterimage’ in the second image is the consistent manner of occupation of the wide street as it assumes the role of the only public space in the town. These photographs, taken perhaps four years apart, and their printing together on the same page, helps to establish the visual trope for the representation of Hannan Street (and indeed greater Kalgoorlie and Boulder) that will persist for at least the next decade. Through the device of their printed adjacency on the page and aided by the use of captions, the two images communicate to the reader an understanding of
the rapid development of the boomtown and the transformation of its principal street. They demonstrate the need for the boomtown to be represented in a ‘serial’ form, simultaneously occupying the past (its previous state) and the present (the state to which it has ‘boomed’). These images show a contemporary understanding of accelerated urban time and space when the difference between the ‘early days’ and ‘the present’ is fewer than half a dozen years. The photographs also suggest a second visual trope of the depiction of a street, which, due to its length, cannot be captured in a single image. Hannan Street is often depicted, from the same vantage point, in two photographs, one looking west and one looking east. In these twin images, the street seems to stretch from the bottom of a small range of hills near Hannan’s first find in the opposite direction to the western horizon. While not printed as a single panoramic image in the conventional sense, these pairs of images assume the scope of that totalising image.

Given this context of commercial photography in Kalgoorlie, nineteenth-century seriality and the level of visual and textual literacy that required of the reading public there are a number of ways of looking at the Souvenir.

As previously discussed, there was already established in Kalgoorlie a pictorial convention for depicting the urban development of the town through the use of ‘comparative’ or ‘temporal’ seriality in the organisation of images. Rather than adding to this ‘genre’, the Souvenir explores how Kalgoorlie and Boulder’s proximity and shared, but unequal, dependency on the industrial field affects their urban condition and representation. The towns that developed from the mining camps of Hannan’s and the Great Boulder each centred on different discoveries along the Golden Mile and each developed unique urban characteristics. Kalgoorlie and Boulder have been
described as ‘two separate and distinct towns divided as much by class as by distance’ with Hannan’s (which later became Kalgoorlie) characterised as the ‘home of prospector, the fossicker, the alluvial miner, the trader and the individualist’ while the Great Boulder (later shortened to Boulder) ‘from its very beginning was the home of the mine worker living close by…the shafts of the Golden Mile’. With regard to their representations, a conventional photographic depiction of Hannan Street usually focused on the use of the street or the architecture that lined it. Typical of this type of view are the postcard images, taken at approximately the same time as the opening of the Scheme, by an unknown photographer in a series for the Austral Stores Stationery Company (see Figures 1.3–4).

In this set of postcards, the photographer limits himself almost exclusively to views taken from street level. In both images, ‘Hannans [sic] Street looking east, Kalgoorlie’ and ‘York & Oriental Hotels, Kalgoorlie’, the buildings on the south side of Hannan Street fill the pictorial frame so the compositional emphasis is placed on a continuous wall of buildings that forms the edge of the street. Both images’ technical proficiency, clarity and deep shadows draw the viewer’s attention to complex ornamentation and formal articulation of the Victorian buildings and the space of the street edge. While people are absent from the image of the York and Oriental Hotels, at the Exchange Hotel, men and boys, some looking directly at the photographer, loiter on the pavement beneath its verandahs. Further up the street, men lean their bicycles against the verandah posts and planters on the edge of the street.

At first glance, the Souvenir’s image of Hannan Street would suggest that it conforms to the expectations the Austral Stores postcard series establishes (see Figure 1.2). It contains the same continuous wall of offices, shops and hotels on the south side of the street.
that stretches out of view towards the horizon. The photographer of the Souvenir’s image stands further west and manages to just capture the other side of Hannan Street. However, in addition to this conventional reading of its commercial success, it is Kalgoorlie’s ‘network connection’ to other places, via the telegraph, transport, electrical and telephonic infrastructure, to which the photographer draws our attention. Compositionally, the importance of these connections can be seen in the manner in which the photographer has framed the image to accommodate both the telegraph pole on the left hand side as well as the combined tram, electricity and lighting pole that occupies the centre of the intersection. The canopy of telegraph, electrical and tram wires created over the intersection is the only physical manifestation of these networks. In turn, the Exchange Hotel, the exuberant architecture of which usually dominates images of this intersection, is arbitrarily cropped, diminishing its elevation along Maritana Street. Although the hotel is named for its location next to the former gold and stock exchanges, it is now the black and white signage of the hotel’s neighbour, the offices of The Kalgoorlie Miner and the Western Argus newspapers, that draws the viewer’s attention to the importance of commercial and information exchange to the goldfields town. An issue of The Kalgoorlie Miner from the same week as the opening of the Scheme provides evidence of the importance of these connections to other places. The front page of the eight-page edition consists solely of advertisements, the majority of which promote steamship companies, along with their ships and captains and fares. For sale were services to the capitals of the Australian colonies, London (‘calling in at’ Colombo, Aden, Marseilles and Gibraltar) as well as connections to Durban and Cape Town. Some tickets include the price of the rail fare from Kalgoorlie to Perth. Inside the newspaper, share brokers
PHILIP GOLDSWAIN

with ‘agents in Adelaide’ advertise alongside forwarding agents ‘with
good relations in each state’.32 Supplementing the local mining news,
the paper carries a page and a half of ‘Cablegrams’ and ‘Telegraphic’
reports that range from news from other goldfields, cycling races
in Sydney, the erection of a memorial in Adelaide, the discovery of
a Chinese man suffering from leprosy in Melbourne, to scientific
discoveries in London, conflicts in the Dardanelles, Somaliland and
Venezuela.33 Most of the international reportage is collected via news
agencies in London, despite the geographical spread of the events
reported. Photographic images, as well as textual accounts, helped to
locate Kalgoorlie and Boulder in these colonial networks of commerce,
war and information. For example, in 1896 The Western Australian
Goldfields’ Courier published two captioned photographs, without
accompanying text, of ‘The Residency at Lucknow, as left at the
conclusion of the Indian Mutiny’ and ‘The Bailey Gate Lucknow’.34
This is despite the event occurring more than forty years before, and
more than 7,000 kilometres away from its publication in the eastern
goldfields. The importance of these network connections, and their
significance to the ‘business’ of Kalgoorlie, are highlighted within
the Souvenir’s depiction of Hannan Street’s tenuous connection
to its physical location with only the faint outline of the ridge of
gold-bearing hills visible at the end of the street.

In contrast, the Souvenir’s image of Boulder (see Figure 1.2),
taken from a high vantage point on top of the Court Hotel, allows
the photographer to fill the background with the industry of the
Golden Mile and make a direct, visual connection between the town
and the mines. Pictorially, the unpaved width of Burt Street draws
the viewer’s eye from the civic centre of the town to the activity of
the mines surrounding Brookman and Pierce’s lease, the Great
Boulder. In this sense, the depiction of the street is not concerned

31
Figure 1.5
Great Boulder Mine, 1895 and Great Boulder Mine, 1903 from the Souvenir
with its activity or the buildings that line it, but instead with where the street leads. The majority of the buildings along Burt Street are depicted as part of an anonymous roofscape. Only the banded brickwork of the Commercial Bank and the balconies of the Tattersall’s Hotel in the mid-ground distinguish themselves.

This points to the importance of the photographer’s chosen vantage point when imaging the towns. There are three locations – the street, the balcony and the tower – that a photographer could occupy in Kalgoorlie or Boulder, each of which would result in distinctive visual emphasis and different comprehension of place, context and connection within the booming towns. A camera located on the ground is concerned with the space of the street, the individuals that occupy it and the buildings that line it. Usually, the images contain an empty foreground, no horizon and little understanding of the broader context beyond the line of buildings that frame the street. The second of these three vantage points is the first-floor balcony or verandah that was typical of many of the late-Victorian buildings that lined the main streets. This location was primarily used to photograph public events that took place in the space of the streets below. The camera assumed a position alongside the speaker addressing the crowds as the buildings were transformed into an impromptu architectural rostrum. Rarely were these large events photographed from any other location and the vantage point allows the viewer to understand the size and character of the crowd. Buildings become scenography as they form the backdrop to the crowd in the street. The third location is the towers, cupolas, and domes that top many buildings on the main streets of Kalgoorlie and Boulder. These highpoints in the town became extensions of the photographic apparatus and allowed photographers to make panoramic surveys that show the city in its broader urban and industrial context.
The photographs of Kalgoorlie and Boulder in the Souvenir, at the first reading, conform to these characterisations as they depict the architecture of Kalgoorlie’s commercial prosperity while the image of Boulder focuses on Burt Street, which leads directly to the industrial activity of the goldfields. But it is the combination of these different types of views – the street view of Kalgoorlie and the bird’s eye view of Boulder – in the Souvenir that leads to a more nuanced understanding of the two places. Here the Souvenir presents two requirements of a successful mining town – a base of workers as well as the space of commercial and institutional connectivity that allows for the influx of capital, ideas, people and techniques.

If we turn our attention to the Souvenir’s depiction of Kalgoorlie’s mines, the most likely reading intended by its publisher frames them in the manner of a conventional ‘booster’ publication that documents the ‘astonishing’ progress of the town’s mining industry. For instance, the two images of the Great Boulder mine are intended as a depiction of industrial progress (see Figure 1.5).

A suggestion of continuity within this dynamic process of industrialisation is the consistent location of a number of the pictorial elements, such as the headframe and the brick chimney, that appear in corresponding positions in both images; objects of fixity among booming industrial activity.

From a lone headframe, single brick chimney and solitary industrial shed in the early image, industrial activity now fills the frame of the more recent photograph. The single brick-and-steel chimneys have been replaced by more substantial brick structures. The rutted foreground, which bears the crisscrossing tracks of both manual and animal labour, is replaced by the organised material requirements and waste of the industrialised mine. Tree stumps present in the early image have been replaced by rough piles of
The Great Boulder Proprietary Gold Mines Limited.

S. S.

General Manager—Mr. Richard Hamilton.

Capital issued—4,750,000 shares of 10/- each, £475,000.

Area of gold mining leases held—94 acres.

Number of mine employees—599.

Total quantity of ore mined to 30th December, 1908—392,000 tons.

Total gold bullion produced to 31st December, 1908—1,918,878 oz.

Total amount of dividends paid to 31st December, 1908—£48,276.

Dividends paid during 1908 (to 30th November)—£20,360.

£5,916.

*Includes dividend of £1 per share, declared payable 20th December.

Figure 1.6
The Great Boulder Propriety Gold Mines Limited statistical information and Great Boulder Mine – Visitors from the Souvenir
timber to be used as fuel or structural material for the mine, while the devices of mechanised production and transport, such as the railway line and the water condenser, now occupy the foreground of the image. The single tailings dump has expanded to a row of half a dozen mullock heaps. Among the newly introduced mechanical technologies on the goldfields are reminders of what had been the main source of labour on the field: a worker pushing a barrow as he unloads timber from the ‘woodline’ railway truck, while in the left mid-ground a horse and buggy stand idle, waiting to be used for human transportation rather than material haulage. The new railway line that bisects the image carries trucks full of timber which, given its size, appears destined for the water condensers which transformed brackish salt water into a useable, if not drinkable, liquid. As four workers walk along the railway track it reminds the viewer that the provision of this efficient industrial mode of transport also offers a clear path for miners to travel through the complex ground of the mines.

The lone miner’s framed canvas tent occupying their alluvial lease (as was their right under their license), has been replaced by the mine manager and engineer’s residences. These buildings which, along with others such as the assay office, start to form a scientific and managerial compound of ancillary buildings around the main industrial buildings of the mine. Most mine workers now come from Boulder instead of living on the industrial ground. The mine residences are more substantial buildings than the tents they replaced as a number of the group portraits that used these buildings as backdrops in the Souvenir can attest. The visiting party to the Great Boulder are pictured against the ornamental timber post and brackets of the verandah with established creepers framing the entrance to the house (see Figure 1.6). On the left of the image,
PHILIP GOLDSWAIN

canvas and timber ‘duckboards’ protect the verandah space from
dust, while behind the men on the far right the finials of what
appears to be the elaborate roof of a birdhouse can be glimpsed.
The 1903 images of the Oroya-Brown Hill mine show neatly fenced
staff housing as well as a tennis court surrounded by shade pavilions
for spectators.38

There are unintended consequences beyond this reading of
industrial progress that can be understood from the images. As the
requirements and the production of the mine expanded there were
profound spatial and environmental implications. Instead of the
previous state where the requirements of alluvial mining could be
satisfied within the immediate vicinity of its activity, the despoilment
of the environment described in the first image has been expanded
into the neighbouring woodlands. Through a system of temporary
railways used by logging companies, timber was harvested from the
salmon and gimlet gum forests that surrounded the town. Between
the two images, the camera, literally and metaphorically, turns away
from what little remains of the natural environment and focuses
its attention on what is now the wholly ‘artificial’ environment of
the mine.39 This reading of environmental change and degradation
is complicated by the contemporary responses to what we would
now consider a despoiled landscape. For example, a J. J. Dwyer
image captioned in the photographer’s own spidery handwriting as
‘Deserted alluvial diggings’ shows the pockmarked ground outside
the town which has been emptied of miners and the relatively easy
picking of alluvial gold. When published in the Western Argus, as
part of its supplement to celebrate the tenth anniversary of Hannan’s
discovery, this title is cropped away and instead the caption ‘A busy
day at the foot of Maritana Hill in the early days’ is added beneath
the image.40 While ostensibly the same image (and acknowledging
'PUBLIC PHOTOGRAPHS'

the role that captions play in directing our understanding of the photograph) the original Dwyer-titled image points to an exhausted landscape that has been abandoned as its gold deposits have been depleted while the published image speaks to a scene of industrial productivity and endeavour.

Returning to the Great Boulder photographs (see Figure 1.5), what the viewer can understand from the spatial transformation that has occurred between the two images is the generation of a different landscape and requirement of a new photographic genre to depict it. Filled to the edges with the tools for and by-products of mining, the 1903 image of the Great Boulder is one of organised industrial space, a ‘vernacular’ landscape of storage, transportation, and waste.41 The image becomes a ‘statistical’ photography; a visual approximation of the mining information contained a page later. The list of investment of capital, output of ore, the number of workers and the amount of dividends paid, now finds a visual and spatial equivalent as the elevated eye of the camera records the working activity of the mine.

In conclusion, the Souvenir presents, in its combination of text and images across time and space, variations on established pictorial representations of mining towns and their industries. While one reading of the document proclaims the order and potential of a boomtown settlement, the Souvenir, through its serial structure, brings to the contemporary viewer’s attention a number of the other consequences of the gold rush: environmental change, the nature of the relationship between urban centres and the active role of photography in constructing these identities. Through this comparison of images with text, the viewer is able to gain an understanding of some of the unintended consequences of boom urbanism and rapid industrialisation, as a subtle contrast to those who celebrated the arrival of water in the goldfields.
1 I would like to thank Moya Sharp for her generosity in allowing access to her list of Kalgoorlie photographers.

2 The Souvenir is held in a number of collections and archives including the Kerry Stokes Collection, the State Library of Victoria, Battye Library of Western Australian History, the State Library of New South Wales and the Royal Geographical Society of South Australia. I would like to extend my sincere thanks to the staff of the Kerry Stokes Collection, especially Erica Persak and Sarah Yukich, for their generosity in providing access to the collection’s copy of the Souvenir.


4 The Western Argus, 20 January 1903, unpaginated. This supplement is published beforehand so anticipates the event rather than documents its occurrence.


6 Sandweiss, Print the Legend, p. 6.


9 ibid.

10 ibid., p. 6.


12 As suggested by Mark Sawyer, in conversation, 18 February 2013.

13 P. Hales, Silver Cities: Photographing American Urbanization, 1839–1939, University of New Mexico Press, Albuquerque, 2005, p. 98. The second edition of Silver Cities contains a new chapter that focuses solely on the role of the photographic studio both as an archive and physical entity in the city.

14 ibid., p. 105.

15 Sandweiss, Print the Legend, p. 8.


18 ibid.

19 For example the Western Argus serialised the story ‘The novelist’ in the year that the Scheme opened. ‘Novelist’, Western Argus, 5 May 1903, p. 5.


22 Hughes & Lund, The Victorian Serial, p. 5.

23 ibid.

24 ibid, p. 10.


26 The Chamber of Mines of Western

27 Chamber of Mines, A Souvenir, unpaginated.

28 ‘Hannan Street in the early days’ & ‘Hannan Street – Present Day’, Coolgardie Goldfields Courier, 1 October 1898, p. 17.


30 The Kalgoorlie Miner, 22 January 1903, p. 1.

31 The front page also has six advertisements for Kalgoorlie-Boulder clothes shops, four advertisements for undertakers and three advertisements for the same photographer in Perth.

32 The Kalgoorlie Miner, 22 January 1903, p. 2.

33 ibid., pp. 5–6.

34 The Western Australian Goldfields’ Courier, 2 April, 1896, pp. 5–8.

35 However, closer inspection reveals this to be a compositional conceit, as the images, despite these visual similarities, are actually views of different headframes from different vantage points on the lease.

36 Chamber of Mines, A Souvenir, unpaginated.

37 James Belich uses Mumford’s threefold classification of technologies as a useful starting point to think about how the Industrial and what he calls the Non-Industrial Revolution occurred in settler colonies. Mumford, according to Belich, classifies technologies in the following manner: ‘eighteenth century “eo-technic” (water, wind, wood and animals); nineteenth century “paleo-technic” (steam, coal, iron, and rail); and twentieth century “neo-technic” (petroleum, steel, electricity, and automobiles)’. Belich argues that these technologies coexist rather than displacing one another. J. Belich, Replenishing the Earth: The Settler Revolution And The Rise of the Anglo-world, 1783-1939, Oxford University Press, Oxford & New York, 2009, p. 109.

38 Western Australian School of Mines, Technological survey of the Golden Mile: a visual record of the machinery, structures and equipment used on the Golden Mile, Kalgoorlie, from 1893, Western Australian School of Mines, Kalgoorlie, 1981, Plate 10.13.15, unpaginated.

39 Lewis Mumford argued that the underground mine was the first truly ‘artificial’ environment where the inhabitants had no means of sustaining themselves without the external supply of water, light and air. By 1903 the Great Boulder the main shaft had reached 1800ft underground with the installation of equipment to allow it to go to 3000ft. L. Mumford, Technics and Civilization, Routledge & Kegan Paul, London, 1934.

40 The Western Argus, 16 June 1903, p. 51.

41 Brinckerhoff Jackson, Discovering The Vernacular Landscape, Yale University Press, New Haven, 1984.
Mining operations in remote and regional areas of Australia have attracted a great deal of media and political attention recently. Partly, this is the result of the federal government inquiry into fly-in fly-out (FIFO) and drive-in drive-out (DIDO) work practices in the industry. Over the past decade, FIFO has become a mainstream operational practice in the Australian mining industry, where a large and increasing percentage of the mining workforce live remotely and commute by plane, car or bus to work. Over the past few years, details of these workforce practices have become public knowledge. Although many FIFO workers are paid exceptionally well, the wider costs of living the FIFO routine are also exceptionally high. The effects of twelve-hour shiftwork, usually on a two-week roster, and the impact these practices have on families and the communities in which they live and work are substantial.

A closer examination of FIFO workforce practices within the Australian mining industry is important because these practices provide an entry point into a series of related concerns surrounding the make-up, foundations and future of urbanisation in Australia. It also provides an opportunity to survey the role that building and planning plays in achieving the objectives of the mining industry. The experiences of mining in Australia show that FIFO practices are reinforcing an already highly centralised and urbanised coastal population distribution. This essay argues that this phenomenon...
BACK TO THE FUTURE

does not represent a divergence of the historical relationship between mining and urbanisation in Australia, but rather its continuation. This relationship has operated periodically across the whole expanse of the Australian continent, from the first gold rushes of the mid-nineteenth century, and the successive booms and busts which followed. This longer historical perspective shows that while the effects of mining are serious and problematic, they are not unprecedented or unusual, and it helps to dispel some of the myths surrounding contemporary mining and urbanisation in Australia.

Looking beyond national boundaries, an examination of FIFO also offers insight into the nature and character of global trends in urbanisation. Where the notions of ‘city’ and ‘country’ were previously defined by static concepts, such as the physical location of resident populations, Australia’s mining industry and its FIFO practices show that such concepts are not only outmoded, but that they are potentially having a negative effect on many communities which are overpopulated, underfunded and have an unpredictable and precarious economic future. The schizophrenic nature of the FIFO routine with its harsh work conditions and downtime spent in leisure and lifestyle communities also provides an occasion to rethink what urbanisation means today and how this new understanding might affect our imagination of cities in the future.

The tempo set by Australia’s most recent mining boom has meant that policy and scholarship have largely been trailing the actual developments in the industry. So much so that recent studies have revealed how difficult it is to know how many people are involved in FIFO or even where they work. In a climate of rapid expansion and investment, combined with the volatility of international commodity markets, it is also difficult – if not impossible – to understand the extent of mining operations at any one time. As a result, much of
the knowledge of mining and FIFO has been generated by the media over the past decade. Another source, perhaps more unconventional and with a longer history, is the representation of mining in film and television in Australia and abroad. Impressions from film and television have served to inform those outside the industry, while – as this essay suggests – offering a framework to better understand the role of mining past and present. As several expert commentators agree, the combined effect of Australia’s geography and geology mean that FIFO/DIDO workforce practices will continue. This inevitability suggests that a better understanding of the impact of such practices, and any improvements available to them will be essential for the future of the industry.

FIFO nation
The federal FIFO inquiry was launched from the new Ministry for Regional Australia, its creation a direct result of the 2010 federal election. The 2010 election was memorably decided by a small group of independent MPs from regional seats. The inquiry was chaired by one such MP, Tony Windsor (member for New England), who, from December 2011 to September 2012, conducted public hearings on FIFO-related issues around the country. Although keeping its doors open to the mining industry, the inquiry’s mandate was clearly found in the increasing discontentment from groups both inside and outside the resources sector. Of particular concern were the social and economic implications for the affected communities in remote and regional areas where the majority of Australian mining occurs.

The 2010 federal election aggravated a complaint with a long history in this country, arising from the split between city and country in Australia and the perceived imbalance of interests between the one and the other. In recent times, it seems mining – even more
so than agriculture – is at the frontline of this debate, as Judith Brett’s excellent analysis ‘Fair share: country and city in Australia’ (2011) reported. Both before and after the 2007–2008 financial crisis, mining was widely thought to have thrown a lifeline to remote and regional communities, many of which had been caught in the long-term decline of agriculture as a provider of jobs and income. In case Australians had forgotten this, the mining companies took to commercial television to remind the wider population of its important role. The resulting campaign from 2010, undertaken at the height of the mining boom, was politically charged and aimed to show mining’s successes to the majority of Australians who live in cities and have little or no connection with the industry. But by 2013, it appears that popular perceptions returned to focus on the problems caused by mining in some regional and remote areas; economic and social in nature. As the FIFO inquiry heard, in many booming areas the evidence of mining prosperity was escalating property prices and the erosion of community, as the costs of mobilising an enormous flexible workforce eventually came to bear.

The FIFO report was finally released in February 2013, eighteen months after its launch. If the media reports surrounding the public hearings were any indication, the inquiry was widely expected to tell of the negative effects on the workforces involved in mining, the problems this presents for the industry, and what these practices are doing to new and existing communities in and around mining. Entitled ‘Cancer of the bush or salvation for our cities?’, there can be little doubt that the report fulfilled these expectations. If the report’s title is perhaps prescient of the nature of its findings, its twenty-one recommendations are an even more blunt indication of the problems and shortcomings within the industry. The report notes that although FIFO practices are not new in Australia, having been used in the
past for both mining and health services in remote areas (e.g. flying doctors), the past decade has seen an enormous expansion of its use by the resources sector. The report also noted that where, from the 1960s to the 1980s, new towns were built for mining accommodation, today, many mining companies prefer to build temporary camps and, furthermore, that FIFO is now ‘regularly being utilised to provide a permanent operational workforce adjacent to established regional towns which led to the call for this inquiry to be established’.7

As the media shadowed Tony Windsor on his tour of mining communities, journalists reported on the ‘wild west’ conditions, invoking the rowdy history of mining frontiers generally replete with prostitution, drugs and alcohol, violence, inflated prices for food and accommodation, and the excesses unleashed by large amounts of disposable income.8 This reporting recalled mining’s longer history, recently revived in the popular consciousness by HBO’s hit television series, Deadwood (2004–2006), which was set amidst the smoky rough charms of the gold rush towns of the American west. By contrast, in twenty-first–century Australia, the combination of hostile desert conditions, the precarious future of these places, and the detached nature of modern mining operations is perhaps more evocative of the post-apocalyptic scenery of Mad Max II: The Road Warrior (1981).9 Mad Max II depicts a tribe of new-age miners holed-up in an isolated compound surrounded by a harsh landscape and members of a society – or what is left of society – who are keen to get a share of the miners’ wealth. However, the miners’ dream is not simply the wealth provided by natural resources; rather they dream of a return to a more civilised life in the ‘promised land’, far away on the coast of Australia.

Minus the leather bondage outfits and the outback punks, Mad Max II provides an allegory of our contemporary situation. The film
Figure 9.1
The changing distribution of Australia’s population between urban and rural sectors, 1921–2006
was shot near Silverton in outback New South Wales, which is now almost a ghost town with only sixty inhabitants. For a few short years at the end of the nineteenth century, Silverton was a thriving mining town of some 3,000 people, built overnight following the discovery of silver in 1882. Ironically, Silverton not only supplied the backdrop to several of Australia’s famous outback films (A Town like Alice and Mad Max II: The Road Warrior in 1981, and The Adventures of Priscilla, Queen of the Desert in 1993), but it was also the birthplace of one of Australia’s biggest mining companies, founded following the discovery of iron ore nearby: Broken Hill Propriety or BHP Billiton as it is now known. Today, Silverton is a town surviving on tourism, visited by those interested in its mining and film histories.

The miners in Mad Max II thought paradise was located on Queensland’s Sunshine Coast. Today it is more likely to be Brisbane and the Gold Coast, Cairns, Mackay or the suburbs of Perth, the coastal urban centres the newly mobile FIFO and DIDO mining workforces have chosen as their domicile. At the heart of this scheme is the pattern of Australia’s urbanisation: the highly urbanised and centralised distribution of the country’s population in coastal cities, and the highly remote and regional location of much of the nation’s industry, including agriculture, tourism and, significantly, mining. This deep division is recurrent in discussions of Australia’s urbanisation and in the measures set to address the widening social, cultural and economic gap between country and city in Australia.

Mining and planning
Throughout the twentieth century the trend for Australia’s urban development and population distribution has been clear: metropolitan areas have continued to grow, while the populations of non-metropolitan and rural areas have steadily contracted (Figure 9.1).
Bernard Salt’s *The Big Shift* (2001) documents this demographic change and aligns it with three stages of dominant Australian culture: the country, the city and finally, the beach. Rob Freestone’s *Urban Nation: Australia’s Planning Heritage* (2010) also underscores this account of planning history and the dynamic of city and country planning. Apart from Canberra, the trend in urbanisation throughout the twentieth century has reinforced the dominance of coastal cities, with a major exception found in the ‘development of new mineral-based towns’. Freestone is also careful not to overstate the role of mining and resources industries in regional development, pointing to other industrial and service townships associated with agriculture, irrigation, hydroelectricity and the military as contributors to this counterforce. Freestone acknowledges that mining and resource operations ‘profoundly impacted on the spread of settlement and the formation of towns in regional Australia’, but he agrees with John Toon’s earlier assessment that the ‘gold rushes and subsequent mining towns did not lead to any major innovations in town planning’. To the contrary, Geoffrey Blainey’s *The Rush that Never Ended: a history of Australian mining*, first published in 1963 (now in its fifth revision), evokes an image of mining as the chief mode of urbanisation in the nineteenth century, stating: ‘All Australia’s inland cities of the nineteenth century were mining cities, and gold made Melbourne for half a century the largest coastal city in the land’. The validity of these varying assessments clearly depends on which examples are selected, from which period, and what the phrase ‘major innovations’ in town planning is taken to mean. A brief survey of the planning history of mining towns in the nineteenth and twentieth centuries provides useful context for such an assessment.

The discovery of gold and the ensuing gold rushes of the mid-nineteenth century in Australia saw small towns springing up *ad hoc,*
first across New South Wales in 1851 and then Victoria shortly after. In the following fifty years, mining not only spread across the whole expanse of the continent (north Queensland and Charters Towers, 1865 and 1872, Kalgoorlie and Boulder in Western Australia, 1893), but also diversified to include the search for minerals and metals other than gold. The pattern of mining in the twentieth century differed yet again in scale and technique, becoming increasingly focused on fossil fuels and secondary processing and refinement techniques. As was the case of Silverton in the remote Barrier Ranges of New South Wales in 1882, mining sites were often pioneered by pastoralists. After discoveries were made and made known through various means of communication, both formal and informal, many mining camps and towns emerged virtually overnight and often disappeared just as quickly. Like Silverton, many towns have subsequently shrunk to a fraction of their former size; others have become ghost towns. Towns like Charters Towers, Broken Hill and Gulgong have remained, though they are greatly reduced in size and splendour compared to their heyday. Others have continued to grow, due largely to their proximity to significant cities, such as Ballarat and Bendigo, located less than 150 km from Melbourne. Only a handful of these historic mining towns have continued to prosper through mining itself. They are located on – or near – active mining operations, including Mt Isa, Roxby Downs, Moranbah, Kalgoorlie and the towns in the Pilbara region of Western Australia.

Many early mining towns owe their location or layout and the placement of their principal streets to a combination of local topography and mining claims. In the nineteenth and early-twentieth centuries, architecture in mining towns often functioned as an indicator of wealth and permanence, as if to inspire confidence and longevity in places with a notoriously short lifespan. The
Figure 9.2
Leonora Motor Inn: rapid urbanisation
ostentatious buildings of Victoria’s gold towns of Bendigo and Ballarat provide notable examples of this phenomenon. The early twentieth century saw the development and expansion of many of the major company towns, such as Kalgoorlie, Broken Hill and later Mt Isa. As Toon pointed out, some nineteenth-century towns may have acquired ‘splendid’ Victorian architecture of the day, but their town plans, and those of the majority of mining towns that followed into the mid-twentieth century, remained firmly conventional, and are hence set out in a grid. The planned mining towns from the 1950s onwards, however, were vastly different to their predecessors, many of which were not designed to outlive the mines they served. These include: Bachelor (1952) at the Northern Territory’s Rum Jungle uranium mine; Mary Kathleen (1955–87) at Queensland’s only uranium mine; Weipa (1967–), developed to exploit bauxite in far north Queensland; and Shay Gap (1972–87), just one of a series of new townships developed in the Pilbara from the 1970s onwards.

Philip Goad’s excellent account of the design principles and development of Mary Kathleen and Weipa show that in contrast to initial attempts in Bachelor, both towns were successful in providing modern, climatically adapted and community-minded settlements, and, as Goad notes, ‘They were the presentation of a totally designed environment’. Goad and later Freestone also point to the reliance on the garden city and garden suburb models as precedents, removed from their origins in the verdant landscapes of England, Germany and New Jersey, and transplanted into the Australian bush and desert.

Within Australia’s most recent mining boom, it seems that the intensive design and investment in the development of townships and mining accommodation that characterised Mary Kathleen and Weipa are scarce. Most mining settlements have adopted the
character of the temporary work camp, comprised of relocatable ‘dongas’, with services, catering and recreation largely dependent on the largesse of the operating companies or the difficulties of attracting and retaining a stable workforce in remote and regional areas. Increasingly, these work camps are intended to house the FIFO and DIDO workforces, whose labourers live elsewhere and use these settlements like hotels, with rotating populations dictated by the company roster.

Much like the mines themselves, contemporary mining architecture is mostly temporary. Modern mining technology has resulted in typical operational lifespans ranging from ten to thirty years, often less if commodity prices drop. This has resulted in a tidal wave of temporary buildings in remote and regional Australia to facilitate this economy of extraction. These buildings are anonymous, serial, and (at best) utilitarian. The typical unit consists of insulated and air-conditioned pods, which usually have access to a central mess and other service buildings, and are often organised in plan patterns that recall the layout of garden suburbs and other ‘model’ communities. If such settlements are located close enough to an existing major centre, bus and car transportation is used. Otherwise, and some times in addition to road access, the camps are located within a short drive from a regional airport.

The rising dominance of this model has engendered a secondary industry of camp operators. These companies are charged with developing, constructing and operating the camps, which are then leased back to the mining companies for a specified contract period. Like hotels, these camps, whether operated by the mining companies or their sub-contractors, vary greatly. Some camps offer a full range of traditional resort-like services such as swimming pools, gyms and golf driving ranges, others offer much less. In some
areas with high mining activity, there have been reports of ‘hot-bedding’.24

With the exception of Goad’s research on model mining towns in the post-war period, one could agree with Freestone and Toon in saying that the planning outcomes of Australian mining were not especially novel or innovative, particularly if they are compared to other nineteenth-century industrial settlements in Britain, Germany or the USA.25 But this conclusion does not encompass the whole story. Arguably, the effects of mining cast a shadow that extends beyond the mines, the mining towns and camps, the patterns of their street layouts, their services, and the progressiveness or otherwise of their architecture. The mining and resource sector is a major contributor to the overall national economy. One must look to the prevailing mode of urbanisation in Australia to find the extent of mining’s impact: the major coastal cities. Freestone alludes to this impact in speaking of Perth’s 1960s ‘office skyline’ which was fuelled by the demand for iron ore and ‘a massive injection of international capital’.26 Blainey is more explicit, providing a longer time line for the phenomenon and writing:

The isolation of new mining fields carved lines of transport. Cobb and Co.’s mail coaches started on the goldfields and the early grid of inland railways was shaped much by mining fields, while from an Australian leadfield the world’s first flying doctor made his first flight. Gold finders created or spurred nearly every tropical port from Rockhampton to Port Hedland, and south of the tropic every big port was enriched by the flow of metals.

... Though Melbourne today is at the heart of the poorest metal region, its skyscape is still etched by metals. Its tallest buildings
Figure 9.3
Leonora: donga depot
belong to companies that won their first Australian fortunes from mines. The spire of its highest cathedral honours a copper king, its international centre of medical research honours a gold magnate and its most celebrated hotel, Young and Jackson’s, was built with New Zealand gold.27

According to Blainey, postal services, transportation networks, bridges, railways, ports, health care, skyscrapers, churches and hotels are the tangible results of mining. If viewed within this wider context, mining and resource industries have clearly played a pioneering role in Australia’s planning and urbanisation, but not always in the way their advocates and detractors have proposed. Missing from Blainey’s long list of achievements are the places where the massive urban expansion of Australia’s post-war era actually occurred – the suburbs on the fringes of Australia’s state capitals. As Salt’s study of demographic change shows, suburban growth has not been uniformly distributed across the country; rather it has overwhelmingly occurred on or near coastal areas. Today, Perth, Brisbane, the Gold Coast, and other significant coastal settings continue to expand, mostly outward, but also upward, an expansion partly underwritten by the mining boom.

Mining in Australia may not have led to major innovations in planning, but it has elevated a particular building type within the local and national consciousness: the regional airport. In this context it is of interest to note that the Gold Coast’s 2011 bid for a greater share of the FIFO mining economy was launched in great part by the Gold Coast Airport CEO, Paul Donovan, who stated, ‘There is no better place to live than the Gold Coast, so the opportunity for people to live here and work somewhere else makes sense’.28 As the proliferation of FIFO camps has resulted in the emergence of
a secondary industry of camp developers and operators, so too has
the transportation sector responded with the agility expected from
commercial operations with a keen eye for an untapped, ‘cashed-up’
market. Several providers have emerged in the past decade to
service the mining industry: Qantas Link, Virgin, Alliance Airlines,
Cobham, Skywest and Skytrans among them. In this mix, it appears
that Perth is now the biggest FIFO hub in Australia – an estimated
52,000 FIFO workers pass through the airport on a weekly basis. 29

This concentration of mining-generated wealth in coastal
urban centres is illustrated most clearly in the Queensland
Resource Council’s (QRC) quarterly report, which cites sharp
rises in expenditure (‘wages, goods and services and community
contributions’) by Queensland’s resource companies from the
2009/10 to 2010/11 financial years. Spending was up almost twenty
per cent in Brisbane to an enormous $12.5 billion, and a hefty forty-
three per cent on the Gold Coast to $203 million. 30 As the peak lobby
group for the sector, the QRC proposes: ‘this spending, coupled with
the associated multiplier benefits, means the Queensland resources
sector is currently accounting for one in every five dollars of Gross
State Product and one in every eight jobs’. 31

Yet the exact location of Australia’s FIFO mining workforce
is difficult to determine. One of the most significant problems
uncovered by the FIFO inquiry is the inability of governing bodies
and industry groups (with, perhaps, the exception of the airports
and airlines themselves), to estimate how many people are actually
involved in FIFO activity. This fact has been identified as the major
barrier to understanding FIFO workforces, where they live and how
they move around. As Bernard Salt’s 2011 study – commissioned by
the Isaac regional council located in the coal-rich Bowen Basin – had
previously indicated, the inability to capture accurate demographic
data has had a major impact on the abilities of public and private institutions to provide key community infrastructure, housing and health services.\textsuperscript{32}

As of May 2012, the Australian Bureau of Statistics noted 269,300 people were employed within the resource industry in Australia. Just how many of this total figure are directly engaged in FIFO is unclear; however, partial studies of Queensland’s coal and gas fields in the Surat and Bowen Basins have established that in June 2012, approximately 31,500 people were employed on a FIFO/DIDO basis in these two areas alone. The FIFO report noted ‘the available data is inconclusive, a wide range of parties each makes use of their own estimates of FIFO worker presence to support their claims’.\textsuperscript{33} As Andrew Henderson, the Executive Director of the 2011 census stated:

We would argue very strongly that the census was never designed to measure a number of the things that people are trying to measure in relation to fly-in, fly-out in the resource communities and we seriously doubt whether it could be redesigned at purpose.\textsuperscript{34}

Apart from the difficulties presented for physical planning in such a fluid and diverse community with a numberless and – in some cases – unknowable population, FIFO work practices raise broader social, cultural and economic questions. What future is there in a town where the medium- to long-term economic outlook is so volatile? Can we still speak of ‘community’ when most people who work in these places actually live, or aspire to live somewhere else?
Figure 9.4

Sons of Gwalia Gold Mine: the economy of extraction
Industry and theories of Australian urbanisation

Several major studies of the world’s future population distribution appear to agree that by 2050, as the world enters the ‘urban age’, around seventy-five per cent of the global population will live in cities.\(^{35}\) If this is true, it seems that the vast majority of Australians may have been living in the future for quite some time. According to the United Nations Population Fund, the urban share of the total population of ‘more developed countries’ is already at seventy-five per cent; Australia’s urban population is currently at eighty-nine per cent and rising.\(^{36}\) As we have already seen, from this future vantage point some problems are becoming apparent, particularly in a context where many remote and regional areas continue to assert their economic importance relative to metropolitan centres.\(^{37}\)

In several regards, these problems stem from the central and longstanding feature of Australia’s urbanisation introduced above – Australia is unique among developed Western nations as one of the most urbanised and centralised countries, but also for being one that owes a large part of its foreign export and GDP to industries located in regional and remote areas.\(^{38}\)

There are several theories that can help in explaining how the pattern of Australia’s urbanisation has developed and what the future might hold. I. H. Burnley’s essay on post-war urbanisation in Australia points to the fact that traditional rural industries such as agriculture have contracted due to mechanisation and declining prices for rural commodities such as wool and dairy products. As a direct result of this process, formerly rural populations have drifted to cities.\(^{39}\) Burnley also attributes Australia’s unusually urbanised and centralised populations to two distinct post-war developments: firstly, the increase in post-war migration to the major urban areas; and secondly, changes in industry, in particular, the emergence
of manufacturing and service industries, which are also largely located in major cities. A. J. Rose’s *Patterns of Cities* (1967) puts forward a complex model based on a synthesis of the economic and locational advantages gained by the first colonial settlements (primacy theory) and the decreasing size of other urban centres (rank–size distribution). Rose’s interpretation asserted the importance of Australia’s particular settlement pattern in terms of its chronological and political bases, and points to the very recent (Federation in 1901) incorporation of multiple competing economic units into one nationalised system. Rose identifies this feature as a major determinant of Australia’s discrete pattern of state-by-state urbanisation and its attendant urban hierarchy.

D. T. Rowland’s ‘Theories of urbanization in Australia’ provides a useful survey of the literature on the subject. According to Rowland’s analysis, historical theories, such as some describing patterns of colonisation and their effect on subsequent development, or others highlighting the climatic and geographic conditions that affected the farming and settlement of Australia’s arid and semi-arid interior, provide a practical and theoretical basis for the continuing consolidation of the urban centres. Rowland cites Blainey’s thesis in *The Tyranny of Distance* (first published in 1966, three years after his history of Australian mining), to explain the nation’s pattern of urbanisation and its consolidation over time. In *The Tyranny of Distance* Blainey had attempted to explain how the isolation of the outback and the concentration of wealth and resources in the port cities were part of the same dynamic. In reference to this industrial geography Rowland wrote:

Like the wool industry, gold mining stimulated population growth, largely because the Victorian and New South Wales gold
deposits were within reach of ports and near areas that could meet demands for timber and food supplies. These circumstances made gold mining more profitable than it would have been if distance or environmental conditions had posed greater difficulties. Although gold mining created concentrations of population in inland areas, the port cities gained added momentum from the trade and wealth generated by gold.

Rowland’s earlier study, ‘Patterns of urbanization in Victoria’ (1974) focused on the reasons behind the size of Melbourne relative to other towns and cities in the colony and state, citing the theory of the ‘Malthusian inversion’, first developed by Eric Woolmington, as an explanation for the continuing contraction of the rural population and growth of urban centres. In his 1977 article introduced above, Rowland extended this theory to all Australian urban centres. The ‘Malthusian inversion’ deals explicitly with economic modelling of rural/urban dichotomies, proposing that given a condition of agricultural overproduction, excess and redundant labour in rural areas drifts towards the cities and is sustained there by the very surplus created by overproduction. Applying this logic to contemporary mining operations and their requirements for an ever more minimal and flexible workforce, this theory can help to explain the spin-off effects of mining booms on metropolitan areas. Unlike the original condition of agriculture in pre-industrial times, ostensibly intended to supply local markets, modern mining production is almost entirely oriented to international trade. Thus mining, even more so than agriculture, is a prime example of an economy of surplus. Rowland’s conclusions on the effects of this economy of surplus, around 1977, are of interest to our present situation:
Figure 9.5
Kalgoorlie: coastal urbanism in the interior
Mining towns are an exception to the general coastal concentration of settlement, for in recent times even the most inhospitable lands have not deterred companies from exploiting mineral deposits. Yet mining towns in remote areas can have little generative influence on the surrounding countryside, so they remain isolated settlements with restricted prospects for sustained population growth.48

Rowland concurred with his contemporary, the prominent economist John Kenneth Galbraith (1908–2006), in further pointing out that within such economies, increased production is not always beneficial.49 After reasserting its agenda and vital contribution to national prosperity in recent times, the mining industry is being subjected to increasing scrutiny about the effects of its boom on the rest of Australia’s economy. This scrutiny has emerged partly from the above-mentioned FIFO inquiry, and partly in light of falling international commodity markets that have resulted in cuts to investment projects and closure of some mining operations. Today, the concerns raised by Rowland and Galbraith are joined by those of a range of commentators lamenting mining’s impact for the nation. With specific reference to the industry, the federal Treasury has identified the effects of a ‘two-speed’ or ‘patchwork’ economy, where strong economic performance in mining actually belies the struggles of other sectors such as manufacturing, tourism or higher education, which, far from benefiting from mining wealth, are actually disadvantaged by Australia’s terms of trade and a strong Australian dollar.50 Members of the Australia Institute have agreed with this criticism, and gone further to criticise the extent of mining’s alleged ‘spin-off’ or ‘multiplier’ effects for remote and regional economies, traditionally one of the sector’s major claims.51 Paul Cleary’s Too
Much Luck: the mining boom and Australia’s future (2011) challenges the view put forward by the mining lobby that it is good for the country’s interests altogether, and is deeply critical of the Australian government for not ensuring the long-term benefits of the resource industry in a ‘future fund’ for the nation.52

Urbanisation after cities
As the discussion of mining and planning history has shown, theories of urbanisation and their interaction with industry are largely played out in terms of economic reasoning. But in a context where some urban theorists are questioning the city-centrism of twentieth and twenty-first centuries, the unconventional practices posed by FIFO and mining in Australia provide fertile ground both for a critique of existing urban theory and for identifying future directions of urbanisation. Neil Brenner’s recent work provides a useful framework for understanding the peculiar outcomes of mining-related urbanisation in Australia.53 Together with co-author Christian Schmid, Brenner has questioned the emergence of the ‘urban age’ and its commonplace status within urban discourses.54

The futurism of urban-age theory was clearly intended for less industrially developed countries and not, as we have seen, countries like Australia where the vast majority of people already live in urban centres and have done so since the 1940s. Brenner and Schmid demonstrate how ‘urban age’ ideas first started in the United Nations’ population studies and were subsequently assumed by other prominent, influential groups, most notably The Endless City project and the prominent publications that subsequently emerged.55 Within international architectural and urbanism discourses, the work of Rem Koolhaas and his ‘Project on the city’ has been one of the most vocal proponents of such ideas.56 In debunking aspects of the urban
age thesis Brenner and Schmid review several works from twentieth-century urban theorists who contributed to, or were critical of the emergence of this idea. Among these works, Chicago School sociologist Louis Wirth’s (1897–1952) critique of urban demography is of central importance. In Wirth, Brenner and Schmid find an emerging description of urban conditions that are characterised by dispersion, differentiation, connectivity, and expansion, rather than static and clearly defined notions of resident populations. Brenner and Schmid point out that population-based definitions of urban areas may be valuable as theoretical concepts, but can result in rough and ‘often highly misleading’ views of urbanity, a view pre-empted by Wirth in his 1937 essay, ‘Urbanism as a way of life’:

The degree to which the contemporary world may be said to be ‘urban’ is not fully or accurately measured by the proportion of the total population living in cities. The influences which cities exert upon the social life of man are greater than the ratio of the urban population would indicate, for the city is...the initiating and controlling centre of economic, political, and cultural life that has drawn the most remote parts of the world into its orbit and woven diverse areas, peoples, and activities into a cosmos.

Brenner and Schmid’s critique of earlier studies of urbanisation along statistical and demographic lines underscore the findings of the FIFO report, particularly the shortcomings it identifies in the available statistical and demographic data. Clearly, the absence of data on FIFO workers has had an impact on the provision of adequate services. But FIFO practices also present a case calling for a more fundamental rethinking of what constitutes a community, town, city, or urbanisation under such extreme circumstances. The experience
of FIFO workers in Australia shows that when commuting takes several hours, and when rosters are two weeks on and off (or longer), it ceases to matter if the workforce lives anywhere near the place of work. It is possible to live on the Gold Coast and to commute via Perth to work in the Pilbara. There is anecdotal evidence of mining workers who live in Bali (Indonesia) or Phuket (Thailand), who commute to work in Western Australia, choosing to spend their downtime in overseas tourism destinations, particularly those areas where the cost of living is low.\textsuperscript{59} If it is not doing so already, this remoteness/long-distance-commuting phenomenon will hold repercussions for Australian coastal cities and the wider region extending into South-East Asia. Already, the flipside of such a phenomenon is becoming evident with the recent federal government announcement of a limited number of visas for overseas ‘guest workers’ earmarked for mines in remote Australia, which (with the exception of the mining companies themselves) has again reigned the ire of those in and around mining.\textsuperscript{60}

The need for a less city-centric approach to understanding urbanisation seems very timely and highly relevant when contemplating the issues raised by Australia’s FIFO workforce. This is not only because of the distance and commuting aspects of FIFO, or the unconventional nature of the outback communities it has spawned, but because it could provide novel ways of understanding Australian cities. This understanding has long been founded on traditional oppositional concepts such as centre/periphery, urban/rural and city/country which, when compared with actual urban development in Australia since the 1970s, appear to be increasingly redundant distinctions. Brenner and Schmid’s work on the fringe conditions of global urbanisation, areas not usually associated with the ‘urban age’, draws attention to the idea of ‘planetary urbanisation’ – a kind of total urban condition. As the authors state:
This situation of *planetary urbanisation* means, paradoxically, that even spaces that lie well beyond the traditional city cores and suburban peripheries – from transoceanic shipping lanes, transcontinental highway and railway networks, and worldwide communications infrastructures to alpine and coastal tourist enclaves, ‘nature’ parks, offshore financial centres, agro-industrial catchment zones and erstwhile ‘natural’ spaces such as the world’s oceans, deserts, jungles, mountain ranges, tundra, and atmosphere – have become integral parts of the worldwide urban fabric.\(^6^1\)

If viewed within the wider perspective of planetary urbanisation, the building and planning regimes and workforce practices associated with mining in Australia can be seen as part of a much wider, interconnected development. Existing ideas that explain how urbanisation in Australia occurs, including those conventional models that posit discrete or continual growth around a centre, or linear growth along a coastline, do not adequately explain or capture the interconnectedness of these developments. FIFO and mining appear to participate in a wider national and international network of urbanisation. To be of any descriptive or predictive use, this network should reflect the variety of means used to inhabit and exploit the territories in question, which includes mining camps, seaside suburbs and tropical resorts; road, rail and pipelines; along with air and seaports. Indeed, this expanded model of urbanisation could begin to encompass the seeming divides posed by FIFO and Australia’s urbanisation, or, as Wirth proposed in 1937, show how cities and urbanisation have ‘woven diverse areas, peoples, and activities into a cosmos.’\(^6^2\)
Figure 9.6
Kalgoorlie: under the suburb, the desert
Back to the future

For all the benefits provided to those within the industry and for some outside the mining and resources sector, evidence of Australia’s mining boom is still largely found in rapid urbanisation, the erosion of family and community, and complaints about housing affordability. The effects of the boom and its radically mobile and flexible workforces mean that the price of a hamburger in Chinchilla and the cost of an apartment in Perth are now directly linked in ways that were previously much more abstract. Such effects are particular to modern mining in Australia and both embody and magnify the extremes of global and local. It is a situation where abstract global forces such as the rise and fall of the New York Stock Exchange, can have a very local impact. But far from representing a divergence, these effects continue to underscore the patterns of urbanisation in Australia and the role mining has played since colonial times. As Rowland predicted in 1977:

Theorists of urbanisation in Australia have given little attention to the future course of urban development, but they have emphasized the inertia of the settlement pattern and the accumulation of advantages by the capital cities. Australia’s history thus provides few omens of any significant challenge to metropolitan dominance.

The recent report chaired by Graeme Hugo on ‘Demographic change and liveability’ (2010) lends weight to Rowland’s predictions some thirty-five years ago. Hugo’s report maps out a bleak future for mining in remote and regional areas:
BACK TO THE FUTURE

It is now been [sic] well understood (CSIRO Minerals DownUnder) that the resources available in Australia that are relatively ‘easy’ to extract have reached their peak, and in future, it will become an increasingly more complex task (in terms of geography, climate and infrastructure) to extract resources from remote and inaccessible landscapes. The idea that communities will simply spring up around such remote mines has now been abandoned. The resource companies do not want to build such townships – preferring to make their FiFo (or, in some cases drive in/drive out) approaches more sophisticated. Airports are more likely to be built than communities. As a result the sector is not expected to ‘grow’ the population in remote Australia, but it is expected to put a great deal of pressure on such infrastructure as may be in such environments, but the population that serves the sector will continue to live on the eastern seaboard.65

As Hugo suggests, if there is a frontier of mining today it is probably more likely to be found in airline lounges, or at the beach. The easy mining is over, towns like Mary Kathleen and Weipa now seem extravagant, and the mining industry is already developing new techniques to deal with these conditions. An example of this new technological approach is currently being led by mining giant Rio Tinto:66

With our Mine of the Future™ programme we are demonstrating improvements to mining processes that include unprecedented levels in automation, and remote operations that will revolutionise the way mining has been conducted for more than 100 years.67
Rio Tinto’s Mine of the Future™ promises to ameliorate the negative effects of FIFO by making many mining employees into city-dwellers. Technological advances in future mining will mean that, some of the roles currently based at the mine site will...be based in a city thousands of kilometres away. Employees will work like air traffic controllers. They will supervise the automated production drills, loaders and haul trucks from a remote operations centre in Perth.68

If Mad Max II and the plight of Silverton provide a mixture of allegory and historical lesson for the present situation of remote and regional mining operations in Australia, James Cameron’s Avatar (2009) and its intergalactic mine site on ‘Pandora’ might be analogous to the future of mining (although it remains to be seen which is imitating which). Much like Paul Verhoeven’s earlier Total Recall (1990), in Avatar the mining workforce are forced to hibernate as they are shipped across space for a stint in a hostile atmosphere. The mine on Avatar’s fictive moon ‘Pandora’ is run by a greedy mining corporation amid social and indigenous unrest. In this world of interplanetary resource extraction, remote-controlled machinery and robots are used in the search for the valuable commodity ‘unobtainium’ and the company will stop at nothing to get the job done.

If Rio Tinto’s Mine of the Future™ becomes a reality, we can expect that the ‘spin-off’ and ‘multiplier’ effects of mining in remote and regional areas will eventually reduce to zero. Australia’s coastal cities will continue to grow in equal measure with their dependence on remote resource-rich areas that underwrite their expansion and densification.
1 Many thanks to my colleagues at the University of Queensland for their criticisms of the early versions of this paper. Thanks also to William Taylor, Philip Goldswain and Nicole Sully for organising the symposium and road trip behind this publication.


5 The advertising campaign against the federal government resource tax in 2010 is widely held to have provided the final impetus to oust the then prime minister Kevin Rudd from office.


7 ibid., p.1.


9 There are numerous popular films that depict outback Australia and its connection with mining, among them, T. Kotcheff’s Wake in Fright, 1971; W. Herzog’s Where the Green Ants Dream, 1984; and most recently, K. Stenders, Red Dog, 2011.


13 ibid., p.119.


19 See the historic mining plan of Stawell, Vic., in Stone, *Gold Diggers*, p. 107.


22 ibid., p. 50. See also Freestone, *Urban Nation*, p. 130.


25 ‘Generally, however, private enterprise mining and industrial settlements [in Australia] lacked any defining or truly creative social or spatial vision. It was different abroad. Planned industrial housing was a feature associated with the rise of the planning movement, as captured by showpieces like Port Sunlight and Bournville in England, Pullman and Lowell in the United States, and industrial garden communities like Margarethenhoehe [sic] in Germany. These were ventures in welfare capitalism…thinking slow to emerge in Australia…’ Freestone, *Urban Nation*, p. 119.

26 ibid., p. 130.


30 Second and third places for total spending associated with mining were Mackay ($4.4 billion) and Fitzroy ($4.2 billion). Queensland Resources Council, ‘State of the sector’, vols. 3 and 4, Queensland Resources Council, Brisbane, 2011, p. 3.

31 ibid.

32 This absence of data is evidenced by recommendations 1 and 2 of the FIFO report. See *Cancer of the Bush*, p. xix.

33 ibid., p. 17.


35 For a prominent example of this literature see, R. Burdett, D. Sudjic & London School of Economics and Political Science, *The Endless City: the Urban Age project by the London School of Economics and Deutsche Bank’s


39 Ibid., pp. 3–4.

40 Ibid., pp. 9–12.


42 Ibid., p. 111–14.


44 Ibid., p. 168.


46 Ibid., p. 65.

47 Rowland explains: ‘Whereas Malthus believed there is a tendency for population to outgrow its food supply, Woolmington considered that there can arise a situation in which production capacity exceeds consumption. He argued that in developed countries overproduction is increasingly common because technology has lifted agricultural productivity, both per unit area and per unit labor, thereby causing redundancy of some rural labor and inefficient farms. This is the opposite of the Malthian pattern, in which farming becomes more labor intensive but yields diminishing per capita returns from expanding agricultural lands. In a situation of Malthusian inversion, where agricultural employment is fairly static or declining, the excess rural population generally moves to urban centers which are sustained by the surplus agricultural production’. D. T. Rowland, ‘Theories of urbanisation’, p. 171.

48 Ibid., p. 167.


53 N. Brenner is the Director of the newly established Urban Theory Lab at Harvard’s Graduate School of Design.


55 Burdett & Sudjic, *The Endless City*.

57 Brenner and Schmid point out that although Wirth was critical of these population-based urban studies, his later works continued to treat cities and settlements as discrete or bounded entities.


59 At the time of writing Virgin Airlines offer a direct flight between Perth and Phuket.


63 A good example of the near impossible task of planning for the future was seen in 2012, where global falls in the price of iron ore had an immense impact on remote parts of Australia, causing many large mining companies to cancel or postpone projects. In such a context there is a complete redundancy in planning for the future. See S. Martin, ‘Olympic Dam threat as BHP puts brakes on’, The Australian, 28 July 2012, viewed 5 March 2013, <http://www.theaustralian.com.au/national-affairs/olympic-dam-threat-as-bhp-puts-brakes-on/story-fn59niix-1226437208652>.


66 Rio Tinto, like BHP Billiton, owes part of its wealth to Broken Hill, as the former Zinc Corporation was eventually merged to form part of Rio Tinto. Blainey, The Rush That Never Ended, pp. 276–7.


68 Ibid.