THE DEVELOPMENT OF HOUSING IN PERTH (1890-1915)

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This thesis studies the development of housing in Perth, Western Australia, over a period of twenty-five years: from the discovery of the Eastern Goldfields (1890) through to the First World War (1915), a period historians refer to as the "golden years". The gold-rush in Western Australia coincided with an economic depression in the eastern states of Australia and these events generated a ninefold increase in population in Western Australia. A large percentage of this new population eventually settled in Perth and thus created a tremendous demand for housing. Up until the 1890s the design and construction of housing in Perth had evolved at a different pace and in a different form from housing in other Australian colonies, but this situation was changed by events over the following twenty-five years. The detached house, built on a spacious landscaped suburban lot, was firmly established throughout Perth as the preferred model of housing and has remained the dominant model throughout the twentieth century.

The thesis is divided into five chronological sections as a means of focussing on the different rates of economic growth and the different issues addressed in housing in each of these periods. A number of recurring issues are studied in each section to determine their degree of impact on the development of housing in Perth. These issues include; the expectations and demands of the immigrant population for housing of a particular type and their ability to pay for it, the availability of accessible and affordable residential land, the ability of local and state government to provide the public infrastructure to support the preferred housing, the effort of government to exercise control over standards of public health and building construction, the effect of the influx of trained architects and skilled builders on the standard of housing design and construction, the availability and cost of various building materials, and, of course, the planning, details and style of the resultant housing.

Contemporary publications, including local newspapers, architectural journals and books, parliamentary proceedings, state legislation and local government documents have all been used as source material for the
study. Using tender notices and postal directories, a large number of houses have been accurately identified for date of construction, architect, builder, client, materials and cost. This information has added depth to the study. Finally, the conclusion draws all these issues together to highlight their relationships in shaping the development of housing in Perth over the period 1890-1915.
ACKNOWLEDGEMENTS

This study has been a long time in coming to fruition and there are a number of people whom I need to thank for their assistance and encouragement over the years. My thanks go to my tutor, Geoffrey London, for his critical analysis and helpful discussions on this study. His sound advice helped shape the study and kept it on track, even if it has not quite moved in the direction he thought it should take and Simon Anderson, who made many thoughtful comments after reading the final draft. I am indebted to my colleague Duncan Richards, whose continual interest in the study has emphasised its scholarly importance. Many thanks go to Sherry Donaldson, whose encouragement, for a study she knew little about, lifted my spirits and renewed my enthusiasm for what at times seemed to be an arduous task.

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Finally, let me thank my family and friends who endured the saga of "my Masters" and sometimes wondered if I had forgotten them, and most particularly Mike, who gave his encouragement to a project which demanded so much of my time.
Perth and its Surrounding Suburbs, c.1903

The city centre is located between the river and the railway. Except for a zone along the edges of the railway, the rest of the area is predominantly suburban housing. Metropolitan Perth spreads from Fremantle, on the coast, to Midland Junction, at the base of the Darling Ranges.

(Source: M Pitt Morison and J White, Western Towns and Buildings)
# TABLE OF CONTENTS

## ABSTRACT

<table>
<thead>
<tr>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>i</td>
</tr>
</tbody>
</table>

## ACKNOWLEDGEMENTS

<table>
<thead>
<tr>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>iii</td>
</tr>
</tbody>
</table>

## TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>v</td>
</tr>
</tbody>
</table>

## INTRODUCTION

<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>PERTH: PRE-1890</td>
<td></td>
</tr>
<tr>
<td>1.0</td>
<td>Introduction</td>
<td>12</td>
</tr>
<tr>
<td>1.1</td>
<td>Early Settlement</td>
<td>12</td>
</tr>
<tr>
<td>1.2</td>
<td>Perth Townsite</td>
<td>15</td>
</tr>
<tr>
<td>1.3</td>
<td>Urban Expansion</td>
<td>21</td>
</tr>
<tr>
<td>1.4</td>
<td>Land Subdivision</td>
<td>27</td>
</tr>
<tr>
<td>1.5</td>
<td>Domestic Values</td>
<td>29</td>
</tr>
<tr>
<td>1.6</td>
<td>Housing Finance</td>
<td>39</td>
</tr>
<tr>
<td>1.7</td>
<td>Building Industry</td>
<td>40</td>
</tr>
<tr>
<td>1.8</td>
<td>Building Regulations</td>
<td>42</td>
</tr>
<tr>
<td>1.9</td>
<td>Housing</td>
<td>44</td>
</tr>
<tr>
<td>1.10</td>
<td>Summary</td>
<td>54</td>
</tr>
</tbody>
</table>

## GOLDRUSH (1890-97)

<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.0</td>
<td>Introduction</td>
<td>56</td>
</tr>
<tr>
<td>2.1</td>
<td>Population Growth</td>
<td>57</td>
</tr>
<tr>
<td>2.2</td>
<td>Domestic Values</td>
<td>61</td>
</tr>
<tr>
<td>2.3</td>
<td>Government Initiatives</td>
<td>70</td>
</tr>
<tr>
<td>2.4</td>
<td>Building Regulations</td>
<td>76</td>
</tr>
<tr>
<td>2.5</td>
<td>Urban Expansion</td>
<td>88</td>
</tr>
<tr>
<td>Section</td>
<td>Title</td>
<td>Page</td>
</tr>
<tr>
<td>---------</td>
<td>-------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>2.6</td>
<td>Housing Finance</td>
<td>107</td>
</tr>
<tr>
<td>2.7</td>
<td>Building Industry</td>
<td>112</td>
</tr>
<tr>
<td>2.8</td>
<td>Architectural Theory</td>
<td>116</td>
</tr>
<tr>
<td>2.9</td>
<td>Housing</td>
<td>130</td>
</tr>
<tr>
<td>2.10</td>
<td>Interior Design</td>
<td>150</td>
</tr>
<tr>
<td>2.11</td>
<td>Summary</td>
<td>152</td>
</tr>
</tbody>
</table>

### 3 CONSOLIDATION (1897-1905)

<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.0</td>
<td>Introduction</td>
<td>155</td>
</tr>
<tr>
<td>3.1</td>
<td>Population Growth</td>
<td>157</td>
</tr>
<tr>
<td>3.2</td>
<td>Suburban Expansion</td>
<td>159</td>
</tr>
<tr>
<td>3.3</td>
<td>Land Subdivision</td>
<td>166</td>
</tr>
<tr>
<td>3.4</td>
<td>Government Legislation</td>
<td>174</td>
</tr>
<tr>
<td>3.5</td>
<td>Health and Sanitation</td>
<td>189</td>
</tr>
<tr>
<td>3.6</td>
<td>Housing Finance</td>
<td>193</td>
</tr>
<tr>
<td>3.7</td>
<td>Climate and the Verandah</td>
<td>197</td>
</tr>
<tr>
<td>3.8</td>
<td>Building Industry</td>
<td>202</td>
</tr>
<tr>
<td>3.9</td>
<td>Housing</td>
<td>218</td>
</tr>
<tr>
<td>3.10</td>
<td>Interior Design</td>
<td>232</td>
</tr>
<tr>
<td>3.11</td>
<td>Summary</td>
<td>239</td>
</tr>
</tbody>
</table>

### 4 ECONOMIC UNCERTAINTY (1906-09)

<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.0</td>
<td>Introduction</td>
<td>244</td>
</tr>
<tr>
<td>4.1</td>
<td>Population Growth</td>
<td>245</td>
</tr>
<tr>
<td>4.2</td>
<td>Changes in Lifestyle</td>
<td>246</td>
</tr>
<tr>
<td>4.3</td>
<td>The Servantless House</td>
<td>250</td>
</tr>
<tr>
<td>4.4</td>
<td>Australian Architecture</td>
<td>254</td>
</tr>
<tr>
<td>4.5</td>
<td>Health and Hygiene</td>
<td>261</td>
</tr>
<tr>
<td>4.6</td>
<td>Housing Finance</td>
<td>264</td>
</tr>
</tbody>
</table>
4.7 Building Industry 265
4.8 Building Materials 269
4.9 Housing 273
4.10 Gardens 277
4.11 Summary 281

5 RISING COSTS (1910-15)
5.0 Introduction 283
5.1 Labour Costs 283
5.2 Building Materials 287
5.3 Government Initiatives 290
5.4 Workers' Homes 293
5.5 The Servantless House 303
5.6 Housing 308
5.7 Interior Design 330
5.8 Summary 333

6 EPILOGUE 336

7 CONCLUSION 342

8 MEASUREMENTS 354

9 BIBLIOGRAPHY 355
INTRODUCTION

Mid-afternoon on 12 February, 1916, a crowd of 2,000 local citizens gathered in Kalgoorlie Street, Mount Hawthorn, to watch Lady Barron, the governor's wife, lay a commemorative stone on the gate post of "Anzac Cottage". The brick and tile, four roomed, single storey, detached, architect designed villa, of a Federation Queen Anne style, was sited on a 506 square metre lot donated by a local real estate company. Built by volunteer labour, from materials donated by local building merchants, the house was the local community's memorial to the brave efforts of the Anzac heroes. Intended as the first of many houses to be built for incapacitated Anzac veterans, "Anzac Cottage" was described as "Mount Hawthorn's monument to Australian valour"; literally Perth's expression of the "home fit for heroes", so frequently referred to by politicians when rallying support for the war effort. As such the cottage can be seen to embody the popular domestic ideal of "home" in Perth at the time. Because of its symbolic role within the local community, "Anzac Cottage" is an appropriate house with which to both to introduce and conclude this study on the development of domestic architecture in Perth between 1890 and 1915. "Anzac Cottage" was a publicly sponsored example of the popular house of 1916 and clearly demonstrates the degree to which housing in Perth had changed over the previous twenty five years, but just as importantly it still remains, seventy five years later, an exemplar of the contemporary Perth house; a detached villa, set well back on a spacious landscaped suburban lot.

This study was prompted by the lack of reference material on domestic architecture in Perth. Several years ago, while undertaking background

1  R. Apperly, R. Irving and P. Reynolds, Identifying Australian Architecture, p.135. Throughout the thesis references to style use contemporary terms used in the source material.

2  Prior to 1966 measurements in Australia were given in imperial scale, however measurements throughout the thesis have been converted into metric. This conversion hides the logic of the standard divisions of imperial dimensions, but the metric dimensions will be understood by those unfamiliar with imperial dimensions, eg. the Mount Hawthorn lot of 506 sq.m was the equivalent of 1/8 acre, half the typical 1/4 acre residential lot size. A standard conversion table is included as an addendum.

3  Anzac Cottage Souvenir (1916), Battye Library
reading for a series of lectures on the development of domestic architecture in Perth at the University of Western Australia’s Winter School, it became apparent that specific reference material was not readily available. Pitt Morison and White provide an overview of the history of domestic architecture in Western Australia in *Western Towns and Buildings*, but the intention of the authors, writing for Western Australia’s sesquicentenary celebrations, was to provide a general history of architectural development in Western Australia from 1829 to 1979, and therefore their work did not specifically concentrate on domestic architecture. The major references on the development of housing in Australia, including Boyd’s *Australia’s Home*, Freeland’s *Architecture in Australia* and Irving’s *The History and Design of the Australian House*, tend to treat domestic architecture in Perth as being peripheral to developments in Melbourne and Sydney. These histories imply that housing across Australia was similar, only just out of chronological synchronization, and on a smaller scale. This is a simplified overview, which allows little room for discussion of the local differences that characterise the domestic architecture of the smaller capital cities and provide each city with its own housing identity. A consistent sub-plot of these Australian architectural histories is the notion that architectural development in Western Australia was basically the same as that in the eastern states of Australia except for a time lag, usually considered to be anywhere between three to fifteen years. However, this approach to the subject, while it has an attractive structural simplicity, implies that history in different parts of the country share one time continuum. It is an approach that fails to recognise and highlight differences, such as local geographical conditions, cycles of economic and population growth, means of production and integration of overseas and colonial influences, all of which can produce a superficially similar, but really quite different, body of domestic architecture in each city. Therefore, it is intended that

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4 R. Boyd, *The Australian Ugliness*, p.21. It is therefore somewhat of an irony that Boyd, in his opening chapter should describe his impressions of different Australian cities gained from observing their rooftops as his plane comes in to land, because it is these aerial views which inform us about the distinctive development of housing in each city, reflecting the successive layers of its particular history.

5 J. Freeland, *Architecture in Australia*, preface and M. Beasley, "Architectural Styles and their Sources", in M. Pitt Morison and J. White (eds), *Western Towns and Buildings*, p.188.

6 The architectural subtleties of colonial Gothic Revival or Victorian Regency styles in the mid-nineteenth century were largely irrelevant in a settlement like Perth, which was struggling to survive.
this study challenge as well as compliment existing histories. The general stylistic similarities between housing in the major Australian cities are well documented, however what are not well documented are the specific differences. The study aims not only to describe the differences, but also to provide an explanation for these differences. There is also the matter of asserting parochial pride; highlighting what is unique about the development of housing in Perth, so that West Australians can understand and appreciate its significant contribution to shaping our built environment, while also recognising where it fits within the Australian context. While frequent comparisons will be made to housing in other states, it must be stressed that this is not a comparative study. In many respects the study ventures into new territory, bringing together source material, establishing documentary evidence and laying foundations for other researchers to build upon. Speculation and hypothesis is kept to a minimum, as it was felt the material should be first verified and thoroughly understood. This will be a task for other historians.

Rather than tackle the whole history of housing in Western Australia, from 1829 until the 1990s, this study concentrates on housing in Perth, between the years 1890 and 1915. The period, 1890-1915, was one of momentous changes in Western Australia, and Perth in particular. Following the discovery of substantial amounts of gold in the Eastern Goldfields, in the early 1890s, Western Australia experienced two decades of rapid economic, population, political and social growth, which was to bring the state's development more into line with the other states of the young Commonwealth of Australia. The state's population dramatically increased with an influx of immigrants from the eastern states of Australia and overseas. Within a decade Perth's population increased fivefold; from a small struggling British colonial town of 9,500 people (1891) into a bustling thriving Australian city of 44,000 (1901). Over the following decade the population almost doubled to 87,000 people (1911); in total, a ninefold increase over twenty years.8 Housing this

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7 R. Erickson uses the title "the golden years" to describe this period in the Dictionary of Western Australians 1829-1914, Vol.5, The Golden Years 1889-1914.

8 Census of Western Australia, 1891 and 1901, Census of the Commonwealth of Australia, 1911.
rapidly expanded population in Perth, within such a short period of time, was an enormous task. Perth experienced a proliferation of house building. As a result the town was literally rebuilt and a long term pattern of suburban housing firmly established; a pattern which produced Perth's particular housing identity and continues to dominate community attitudes to contemporary housing developments in the 1990s.9

Boyd made the observation that between 1850 and 1950 many of the changes in the houses of Australia were superficial stylistic alterations, while overall the plans of the majority of houses, allowing for minor variations, conformed to five basic models.10 As a generalisation, this observation might be true, and therefore, apart from highlighting the consistency of designers and builders in their use of house plans and their use of various details, little would be gained from a study concentrating solely on changes in architectural style. However, when these changes, whether they be in planning, form, style, construction or materials, are viewed as symptomatic of changes in the society a broader, more informative, study emerges. This is the policy adopted in this study.

Rapoport's *House, Form and Culture* was an influential starting point in determining the framework of the study. He argues that the house is more than just a structure providing us with shelter, rather it is a cultural phenomenon and in order to comprehend this phenomenon it is necessary to understand the identity and character of the culture of which it is a product.11 The relevance of this point becomes apparent when we refer to our own house; is it a house or a home? While the two words appear to be synonymous there are significant cultural associations with the word home that are not associated with house. In *Home: a Short History of an Idea*, Rybczynski outlines how these

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9 The study makes no reference to Aborigines or their housing, because within the period of this study Aborigines were not regarded as part of the community and were forced to live outside European settlements.


11 A. Rapoport, *House, Form and Culture*, p.46.
associations evolved over time within different societies. These observations suggest that an understanding of the cultural significance of home in Perth society in the late nineteenth century might well explain a preference for a particular model of housing and the symbolism attached to that model. But does it explain enough? A society sharing a cultural notion of home and a preference for a particular model of housing is one thing, but having the economic means, legislative support and productive forces is also essential if this goal is to be achieved. Therefore the study was expanded to encompass the flow of investment capital, employment, wages and their relationship to the cost of housing; the role of government in providing roads and drainage, public transport, water, and power, and the introduction of health and building regulations; and the ability of the building industry to provide a range of readily available building materials and skilled tradesmen.

The gold-rush and the rapid influx of an urban population from other Australian states and overseas, to the point where those who were Western Australian settlers prior to the rush became the minority, resulted in a shift in community values and expectations. The collapse of the Melbourne building industry in 1890, the bank crashes of 1891-92, and the ensuing decade of economic depression prompted thousands of Victorians to move to Perth to share in the benefits of the Western Australian gold boom. Their presence led to a legendary rivalry between "Sandgropers" and "T'Othersiders" in the goldfields of Western Australia, but its powerful influence was equally apparent in the cities. Many gold-rush immigrants came from relatively sophisticated urban backgrounds and it might be expected that their knowledge and past experiences would shape housing expectations and aspirations in Perth.

The expansion of Perth's suburbs was nurtured and supported by the availability and provision of public and private transportation systems. The local introduction of mechanical transport, the Fremantle-Perth-Guildford railway (1880), preceded the rapid growth in Perth's population and this assisted the spread of suburban housing; the later introduction

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of trams (1899) further encouraged suburban development, but in different localities. Banham's study on the influence of early transportation routes on urban growth patterns in Los Angeles prompted attention to the role played by transportation in Perth. Selwood's study on residential subdivision in Perth was a major reference on this topic.\textsuperscript{13}

Of course there is a problem of generalisation involved in tackling this study; housing in Perth ranged from the largest West Perth mansions, which might cost £5,000 to build, down to a basic weatherboard cottage in East Perth costing £80.\textsuperscript{14} It raises the issue of high architecture and popular architecture and questions of how innovation occurs in the design and construction of housing.\textsuperscript{15} The study traces the interchange of ideas and developments through the various socio-economic layers of the housing market and highlights the contributions made by the numerous participants in the housing market.

The production of housing is not solely in the hands of architects, or builders. The development of housing goes beyond issues of design and construction; it involves numerous participants, including the owners, occupants, land developers, architects, builders, manufacturers of building materials, government officials and financiers. Each participant faces the issue of housing with particular attitudes and interests, all of which shape and colour the eventual outcome. To a landlord the house is primarily a capital investment and therefore issues such as locality, design, standard of construction and maintenance might be weighed against cost and likely return on investment. For most home owners their own house is their major financial investment, but it also represents an expression of their social aspirations and status; the house is expected to reflect their concept of 'home', satisfy the more prosaic physical and functional requirements as well as be financially rewarding. Property


\textsuperscript{14} For the purpose of consistency throughout the thesis all monies are stated in their original pounds sterling.

developers, conscious of their potential market, make judgements when subdividing land about the location and width of roads, lot sizes and land prices, but the basis for these judgements needs to be examined. Local and state government officials establish building regulations which govern the siting of houses, choice of building materials and methods and standards of construction. These regulations, usually introduced to ensure the health and safety of the community, also shape the appearance of the neighbourhood and fundamentally aim to maintain local property values. Financiers, who control the flow of capital into the housing market, exercise a great deal of control over what type of housing is built through their loans policies. Their prime objective is to protect their investment capital, but through their influence in channelling funds they subtly impose their set of social values on the housing market. Architects have design ideas and aesthetic values which they wish to express, while they are expected to work within parameters established by all the other participants.

Several years ago Pitt Morison raised the question of the role the immigrant architects from Victoria and elsewhere played in reshaping the architecture of Perth; these were architects who, during the building boom of the 1880s in "marvellous Melbourne", had the opportunity to develop their architectural skills to a sophisticated level; working on numerous projects, often with spendthrift clients, and having available a specialised building industry of skilled artisans and craftsmen. This experience was to filter through in the work which these architects completed in Perth, and elsewhere in Western Australia, and a comparison of some of their domestic architecture in Victoria with their subsequent work in Perth illustrates these links. Occasionally, in a burgeoning town or city an architect takes the opportunity to shape its architectural form, the Woods, father and son, in Bath and Robert Adam

16 M. Pitt Morison, "Immigrant Architects in Western Australia 1885-1905", The Architect (Western Australia), Vol.23, No.1 (1983), p.24. This article was based on a larger, unpublished, study held in the Battye Library.

17 The most obvious example of this theme is the work of Norman Hitchcock, whose idiosyncratic style of exterior mouldings is readily apparent in both his Melbourne and Fremantle buildings, as recognised by Miles Lewis some time ago. However there are many other architects, and builders too, who in a less obvious manner, adapted their skills to the cultural and physical conditions of Perth, thereby influencing the characteristic style of Perth's domestic architecture.
in Edinburgh's New Town readily come to mind, but this was not to be the case in Perth. With so many newly arrived architects competing for work in Perth, no one architect was to emerge from the crowd, although due to the large volume of his domestic designs Harold Boas came close to leaving his architectural imprint on parts of Mount Lawley and Nedlands.

Many unemployed building contractors, artisans, craftsmen and labourers in the Melbourne building industry sought work in Perth, where their specialised skills were in demand in the thriving city. Their contribution to the standard of building construction and execution of stylistic detailing is an important aspect of the study, matched by the contribution of new manufacturers and suppliers of building materials.

But what of the legacy of early settlement? Governor Stirling's siting of the town, the topography of the Perth town site, the original regulations governing land subdivision and the supply and cost of residential lots and buildings established a strong hierarchy of land use, density of housing and the appearance and quality of Perth streetscapes, which was to influence patterns of urban growth in the 1890s. This early phase of Perth's development is dealt with in the first chapter, as a prologue to the body of the study.

As better communication links were established between Australian states and interest in the creation of an Australian identity emerged, stimulated by the Federation movement, thoughts on the planning and design of domestic architecture suited to Australian conditions were frequently voiced. While circumstances might not have always allowed for these theoretical ideas to be put immediately into practice, it is important to note these sources of influences and to investigate the impact these ideas had on local architecture.
To summarize, the study investigates the legacy of the existing township, the patterns of growth which had developed from early settlement and their impact on future developments. It traces the impact of changes in the economy of the state following the discovery of gold and continuing up until the beginning of the First World War. It looks at the effect the massive increase in population had on local domestic attitudes, social aspirations, aesthetic values and housing patterns; the degree to which the influx of eastern states architects, builders and artisans influenced the standard of domestic architecture in Perth and the ability of the local building industry to meet these demands. The study also covers the role of government, local and state, in legislating to protect and support community values. Put succinctly, the study analyses the relationship between economic, ideological, political and social conditions and the resulting architectural, physical and spatial forms of housing in Perth.

Perth is a sprawling suburban metropolis, encompassing many of the original colonial townships, including Fremantle, Guildford and Perth. However, for convenience, the study narrows its focus on the domestic architecture primarily within the boundaries of Perth City Council, tracing the spread of housing from the colonial town site into the surrounding suburbs of Highgate, Leederville, Mount Lawley, North Perth and West Perth. On occasion mention will be made of other suburbs when it is useful to illustrate a particular point.

Traditionally, housing in Australia has been closely tied to the state of the economy; economic booms and busts have been amply reflected in an equivalent rise and fall of the building industry. Therefore, a decision was made to break the study into phases of economic development from 1890 through to 1915. These economic periods are based on R. T. Appleyard, "Economic and Demographic Growth, 1850-1914", in *A New History of Western Australia*, pp.211-236.
pre-1890: the period prior to the gold-rush,
1890-1897: the boom period of the gold-rush,
1898-1905: a period of economic consolidation,
1906-1909: a period of economic uncertainty,
1910-1914: a period of rising housing costs, and
1914-1918: the First World War and economic slow-down.  

Each period experienced its own particular pressures which explicitly and implicitly influenced the production of housing in Perth. The slow growth of the population and economic of the early settlement inhibited the development of an organised building industry and this influenced the quality of the early housing. The gold-rush generated a rapid increase in population, with a demand for housing in Perth beyond the capacity of the existing housing industry, subsequent overcrowding created health problems and demands for sanitation reforms, the existing railway enabled the rapid subdivision of suburban residential land outside the township, shoddy building practices, colloquially referred to as "jerry building", were countered by local government enacting by-laws which established minimum building standards acceptable to the community. The hectic days of the gold-rush were followed by a period of consolidation. However, in the latter part of the first decade of the twentieth century an economic decline produced a slow down in the building industry and when this was followed by a steady rise in the cost of housing Scaddan's Labor government responded with the introduction of the Workers' Homes Scheme. In some periods the issues which affected housing were readily apparent, raised in the local press, discussed in the building journals and debated in council chambers and parliament and responses were quite obvious, but at other times pressures for change and consequent responses were more obscure.

Reference material was gathered from a wide range of contemporary sources including; government documents, state and local government

19 The pent up demand for housing caused by the economic disruption of the First World War activated a post-war building boom such as had not been experienced in Perth since the 1901-1906 period, but that is beyond the scope of this study.
legislation, photographic archives, published and unpublished histories, architectural journals and newspapers. Tender notices, council rate books, building licences, postal directories and electoral rolls were used to identify a large number of houses. This produced data on the relationship between architects, builders, clients, building materials and construction costs. A number of identified houses were measured, plans drawn at a scale of 1:100 and uniformly reduced to allow a comparative study of layout and room sizes.

Finally, it should be emphasised that generally the factors affecting the development of domestic architecture in Perth were little different from those experienced in other European populated cities in the late nineteenth century, cities Frost refers to as "the new urban frontiers". Rather it is the specific circumstances under which these factors come together, the varying degrees of influence exerted by the various participants, the level of economic activity, overlaid on the existing natural and built environment that gives the housing in each city its unique character. This study does not seek to prove that the development of housing in Perth between 1890 and 1915 was unique, but rather to explain the causes of urban and architectural characteristics which are specific to Perth.

1. PERTH: PRE-1890

1.0 Introduction

The house in Perth was not the product of an indigenous people; nor was it the result of a long evolutionary process, in which the use of construction techniques, building materials and form was a direct response to local physical conditions; rather it was the product of a recently arrived British colonising society; one which attempted to transplant nineteenth century British ideals of domesticity into a new environment. Established in 1829 as the first free colony in Australia, the Swan River settlement developed in a sporadic manner for seventy years, until the discovery of gold in the late 1880s irreversibly changed its history. The growth of Perth, the administrative centre, was closely tied to the development of the rest of the colony and was therefore equally sporadic.

This chapter is a prologue to the body of the study. Its purpose is to provide background information and establish the conditions existing in Perth prior to the gold-rush. Because this period of development is not within the scope of the study much of the reference material is based on the work of a number of respected historians, including Cowley, Pitt Morison, Seddon, Stannage and White. The material covers conditions in the settlement, the domestic values of the citizens, town planning controls and the regulation of land subdivision, the impact of the architectural profession and the state of the building industry. The chapter also studies the values and ideals of home as developed in Britain in the nineteenth century, the transfer of these values to Perth and subsequent transformation in response to local conditions.

1.1 Early Settlement

Property ownership was the major incentive for the free British settlers to migrate to the Swan River colony in the late 1820s. Unlike the Pilgrim Fathers in New England, these early colonists were not fleeing from religious or political persecution, nor were they involuntarily transported
to convict settlements, as occurred in some of the colonies of eastern Australia. Rather it was the opportunity of establishing a life of "respectability and comfort", above that available to them in England, which appealed to the early settlers.¹ The acquisition of inexpensive agricultural land in the Swan River colony would be their means of achieving this goal.

In Britain, the ownership of rural land had been the key to wealth and social standing for centuries, but agrarian and industrial revolutions in the latter half of the 18th century made land ownership a more difficult and expensive goal to achieve. Therefore it is not surprising that the Swan River settlement, the first exclusively free colony in Australia, was promoted in such a manner as to appeal to "the younger branches of the higher classes, and to the middle orders, who under the existing circumstances are unable to find employment adequate to their numbers, education and habits".² The majority of initial settlers consisted of young urban families of the lower middle class with little, if any, farming experience.³ These early settlers, buoyed by overly optimistic reports and unable to fully comprehend the real risks and hardships of settling in an unknown land, believed that any immediate difficulties faced on arrival in the colony would be more than compensated for by the promise of a grand future for themselves and their children. They believed that through their initiative, industry and talent they were destined to reap the material and social rewards they so eagerly sought.⁴ This strong belief in self improvement and social mobility was one of the motivational characteristics of the British middle class in the nineteenth century.⁵

¹ Letter from Isaac Jecks of Guildford to Colonial Secretary Broun, as cited by C. T. Stannage, People of Perth, p.14.
² N. Ogle, The Colony of Western Australia: A manual for Immigrants to that Settlement, (1839), reprinted Sydney, John Ferguson, 1977, p.6. Mennell referred to them as being of the "lower gentry", P. Mennell, The Coming Colony, p.44.
³ P. Statham, "Swan River Colony", in C. T. Stannage (ed) A New History of Western Australia, p.185. Amongst the settlers were a number of young military officers whose careers had been curtailed by the advent of post-Napoleonic peace in Europe.
⁴ M. Aveling (ed), Westralian Voices, provides excerpts from various letters and diaries of settlers in the Swan River colony, much of this material came from the large collection of private papers in Battye Library.
⁵ W. E. Houghton, The Victorian Frame of Mind, pp.4-8.
It was the intention of the private promoters of the Swan River settlement and the British government that the colony would be a self-supporting agrarian settlement and the purpose of specifically establishing a limited number of urban areas would be primarily to service the rural communities. These towns were to be the essential links between the areas of rural production and world markets. This strong connection between a commercial port on the coastline and the rural hinterland was not unique to the Swan River settlement, rather it was a common feature in the establishment of European colonial settlements in the nineteenth century. However, it was scale of immigration, rate of population growth and economic development, combined with government town planning policies, standards of architectural and building skills and availability building materials, overlaid on the distinctive topographical features of each settlement, which were to produce the distinctive characteristics of housing.

The Swan River was a major determinant in the location of urban areas in the colony. From early settlement in 1829 until the opening of the Fremantle-Perth-Guildford railway in 1880 the river was the primary means of transport. A sand bar at the mouth of the Swan River prevented access to ocean shipping, therefore Fremantle played a significant role as the junction between sea and river transport systems. Perth, the administrative link between the rural colonists and the British government, was deliberately located upriver by Governor Stirling for reasons of defence, while Guildford was located as far as was possible up the navigable length of the Swan River to serve as the inland port for the rural hinterland. Thus, the initial urban settlements along the Swan River quickly established their specific roles within the structure of the colony.

Throughout most of the nineteenth century the expected growth in the farming population of the Swan River colony did not eventuate. There were numerous reasons for this lack of population in the colony. A large

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7 O. Richards, Stirling Square, Guildford: a Conservation Study, 1989 outlines the historical details of the planning of the Guildford town site.
number of the first settlers, coming from urban backgrounds, had little knowledge of farming. Their inventory lists, prepared for claims to land grants, included many inappropriate items, including town carriages and pianofortes. Many settlers were ill prepared and ill equipped for the task of establishing a rural life in the new colony. The local administration was not adequately prepared for the initial rush of settlers and there were long delays in subdivision of land and processing land grants. The settlers' optimistic expectations of easy success were quickly shattered by the enormity of the task and the hardships of pioneering life. Dissatisfaction emerged amongst settlers and this flowed through to negative reports of the colony in the British press. After only a brief stay in Western Australia a number of settlers migrated to colonies on the the eastern coast of Australia. These events reinforced the British impression that the more established settlements in other Australian colonies offered settlers a more positive future. As a result of these early setbacks the rate of population growth in the colony was low. Between 1829 and 1850 Western Australia attracted a population of only 5,886 people; whereas South Australia, founded in 1836, attracted a population of 52,904.

1.2 Perth Town Site

The framework used for land subdivision in the Swan River Colony was strongly influenced by the British Colonial Office's previous experience of land subdivision in colonies on the east coast of Australia and North America. When Captain James Stirling was appointed Lieutenant-

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9 See T. Turner, Turners of Augusta, pp.81-84, for an example of a list of family members, servants and household items submitted to the colonial administrators to substantiate a land grant.
10 Forty years later newly arrived immigrants still had little comprehension of the isolation and the vast distances that separated the colonies. E. Millett, An Australian Parsonage, p.35.
11 During the 1830s there were several years when departures from the colony outnumbered arrivals. WA Statistical Register, (1900).
Governor of the proposed Swan River Colony, by Sir George Murray in December 1828, his instructions clearly stated that in matters dealing with land subdivision "care must be taken to proceed upon a regular plan." Stirling was also supplied with a copy of the instructions previously given in 1825 to Sir Ralph Darling, the governor of New South Wales, as a guide to how the land in the new colony should be subdivided. On 3 February 1829, further instructions were given to the colony's Surveyor-General, which established the basis for the planning regulations eventually promulgated in the colony on 28 August 1829. The objective of these instructions, involving the division of the new territory into "counties, hundreds, townships and sections", use of the cardinal points for the orientation of the square mile (259 hectares) grids and reservation of land for public amenities and roads, etc., was to produce an orderly subdivision of both the broad rural lands and the necessary urban settlements.

The colonial Surveyor-General was under heavy pressure to survey both the required town sites and the farming land grants and there were delays. Three days prior to the promulgation of the regulations covering the whole colony, Stirling felt it necessary to issue a number of regulations specific to townships to ensure that the settlers' early campsites did not evolve into unplanned town sites while the Surveyor-General was still laying out his plans for urban settlements at Fremantle, Guildford and Perth.

Stirling, municipal administrator of the Town of Perth, as well as Lieutenant-Governor of the colony, reserved an area of 777 hectares on the northern shores of Perth Water for the town site. The land surrounding the town site was then hurriedly subdivided by the Surveyor-General into farming land grants for the impatient settlers. Under pressing circumstances some British Government's instructions on land subdivision were ignored. As it was thought important to maximise the number of properties having access to the Swan River's water supply initial land grants were deep and narrow lots, perpendicular to the river's edge; cardinal points were temporarily ignored. Later, when the city
expanded beyond the boundaries of the original town site and the old farming land grants were subdivided into residential lots, this early decision would result in some awkward junctions of roads and suburban lots.\textsuperscript{13}

An early plan of the town site, published by J. Arrowsmith in London in 1833, shows an orderly arrangement of lots between St George's Terrace and Wellington Street, stretching west from the Causeway to Spring Street. (Fig.1.1) Five years later, the official town plan, drawn by the Colonial Draftsman A. Hillman, in February 1838, shows the town covering an area of approximately 405 hectares, extending west from the present Causeway to Milligan Street and north of the river to Newcastle Street. The plan included four public reserves; areas now occupied by St Mary's Cathedral, Government House, Treasury and Lands Buildings and East Perth Cemetery.

On August 25, 1829, a set of regulations relating to 'Town Allotments in Perth and Fremantle' was published and subsequently, on August 29, the Secretary to the Governor, Peter Brown, instructed the colonial Surveyor-General, that houses erected on St George's Terrace must have a minimum value of £200, while those to be built on Bazaar Terrace (now the Esplanade) and elsewhere must have a minimum value of £100.\textsuperscript{14} Each house was required to be set back 9.15 metres from the front boundary, sited in the middle of the lot and have a uniform fence around the site.\textsuperscript{15} Government officials had determined that St George's Terrace, with its open prospect overlooking Perth Water, was to be the 'front' street of Perth and therefore should have an appropriate standard of

\textsuperscript{13} W. E. Bold made the point that "the proper development of North Perth has been hindered by the extraordinary manner in which Locations Y and Z (Mount Lawley and Maylands) were originally laid out", WAMBEJ, 2 December 1911, p.19.
\textsuperscript{14} CSO Letter Book, Vol.1/40.
\textsuperscript{15} W. E. Bold, "The First Hundred Years", RWAHSJ, Vol.1, No.2, (Oct) 1939. The \textit{Bill for the Improvement of Towns} (1851) reduced the street boundary setback to 3.0 metres, and by the 1870s many buildings were built up to the street boundary.
Figs.1.1 & 1.2
City of Perth, 1832 and 1845. The maps indicate the progressive subdivisions of the original town site.
(Source: M Pitt Morison and J White, Western Towns and Buildings)
housing. These provisions, combined with the formal layout of town allotments, location of the administrative buildings and provision of land for public squares, established patterns of land use and a social hierarchy which would govern future development in central Perth. Today, St George's Terrace continues to be the premier administrative and commercial address in the city.

Both Pitt Morison and Seddon refer to the apparent similarities in planning of Perth's Town site and Edinburgh's New Town, but Seddon points out while there might be a similarity in the layout, their built environments are quite different. In Britain by the 1830s the tight homogeneous urban environment of Georgian town squares was challenged by a growing middle class preference for individual suburban housing lots. The ordered streetscape of contiguous uniform housing was superseded by the picturesque broken line of separate villas: a unity of housing form was rejected in favour of an expression of individuality and personal success. In his popular Encyclopaedia of Cottage, Farm and Villa Architecture (1833) Loudon boldly declared that "every individual, not living in a town, will possess a cottage and a garden", and "every man who has been successful in his pursuits and has by them obtained pecuniary independence may possess a villa." Loudon described the "beau ideal for an English villa" as being sited in such a manner as to "shut out everything belonging to the neighbourhood which could indicate that there was any other proprietor or resident in the vicinity", and, in particular, any views of a township, because "the associations recalled by the appearance of the town are those of toil and occupation." This was the conventional reasoning in favour of the individual suburban housing lot, each with its private villa.

16 M. Pitt Morison argues that implicit in these government regulations was a "sort of social stratification", which physically reinforced the hierarchical role of state, church and ownership of property within the young British colonial society. "Settlement and Development" in Western Towns and Buildings, p.15.

17 Large private residences were built on St George's Terrace, and its extension Adelaide Terrace, as late as 1914. However, by 1910 many large residences had been converted into boarding houses as wealthy residents sought seclusion in the suburbs.

18 G. Seddon & D. Ravine, A City and its Setting, p.86.

19 J. C. Loudon, An Encyclopaedia of Cottage, Farm and Villa Architecture, p.763.

20 J. C. Loudon, An Encyclopaedia of Cottage, Farm and Villa Architecture, p.766.
Stirling's town plan for Perth and his early regulations on building set backs sit comfortably with the ideas of Loudon and other contemporary architectural writers. Loudon was a strong influence on architectural thought in the early part of the nineteenth century and Stirling was familiar with Loudon's ideas, having had a copy of Loudon's earlier work, *The Encyclopaedia of Gardening* (1822), amongst his books dispatched to the colony from Britain. However, the Swan River settlement's slow uneven pattern of economic growth, *The Improvement of Towns Bill* (1851) and the administrators' indifferent enforcement of planning regulations produced an inchoate townscape, in which "the next neighbour to a large well stocked 'store', or the private house of an important official, may be the cottage of a shoemaker or the yard of a blacksmith." Despite this apparent disorder, Mrs. Edward Millett, the wife of York's new vicar, who arrived in Perth in late 1863, observed that "since almost all the houses in the best parts of the town stand in their own gardens, no actual streets can be said to be formed by them, and the general appearance of the whole place is rather that of one of those suburbs to which businessmen of our large towns at home retire after their day's toil is over, than that of the working hive itself." Twelve years later the Acting Surgeon General reported: "The houses are nearly all detached, and standing in about an acre [0.4 hectare] of ground; they are built of brick, and roofed with shingles, and generally have a verandah back and front." From its inception Perth had developed and maintained the appearance of a suburban, rather than urban, town.

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21 A list of books dispatched to Stirling in Perth included "Loudon's *Gardening*, Nicholson's *Architecture* (3 vols.) and Cobett's *Cottage Economy.*" CSO Vol.1, 1829, p.143, as cited by C. T. Stannage in *The People of Perth*, p.12. In fact the books were J. C. Loudon's *Encyclopaedia of Gardening* (1822) and the three volumes of Peter Nicholson's *The Dictionary of Architecture* (1819), a copy of which is in the Leighton Irwin Memorial Library, University of Melbourne. In his description of planning Nicholson illustrates his own town plan for Ardrossan, a new town in Airshire (sic) for the Earl of Essington. The coastal resort town was designed to have contiguous townhouses fronting directly onto the street, a model quite contrary to that decreed by Stirling for Perth a decade later.


1.3 Urban Expansion

Despite the overall slow population growth throughout Western Australia, the population increase in the Perth town site was more vigorous than had been anticipated. There was a reluctance on the part of some colonists to leave the relative security of the urban settlement. The rugged bushland, harsh climate and unfriendly Aboriginals presented newly arrived settlers with the physical hardships and economic uncertainties of pioneering an agricultural settlement in a hostile environment. The town sites, apart from offering a sense of security, also offered economic advantages to those who could establish themselves as traders or purveyors of services to the colonial community. 25

The slow economic development of the colony prompted several of the leading colonists to petition the British Colonial administration to send convicts to the colony. The introduction of some 9,700 convicts over the period 1850 to 1868 did much to change the economy of the struggling colony; it injected a large amount of British government capital into the colonial economy and provided a big boost to the local labour pool. Consequently, even after the transportation of convicts ended in 1868, the colony enjoyed a steady growth in the economy and population up until the 1890s, when the discovery of gold was to shift the economic base of the young state.

The introduction of convicts in the colony in 1850 and the rapid growth of the associated penal bureaucracy further reinforced the role of Perth as the administrative centre of the colony, particularly when the colonial administration undertook a major public works programme, which included building Government House (1858-64), Perth Town Hall (1867), prisons, administration buildings, roads and bridges. The works programme, of enormous benefit to the infrastructure of the colony, served to highlight and reinforce the dependency of the settlers on the colonial administration for economic survival. The centralization of administrative power and its attendant support system, typical of

Australian colonial settlements, resulted in the political domination of the capital city over the rural hinterland. More job opportunities, a greater availability of goods and services and a degree of social security led to the continued growth of the urban population in Perth and by the late 1880s approximately one third of the population in Western Australia resided in an urban environment. However, this was a much lower figure than the 1891 national average, which showed two thirds of the Australian population classified as living in urban areas. These statistics reflect the strong agrarian basis of the Western Australian economy in the 1880s. There was very little industrial production in the towns, whose main function continued to be to service the rural hinterland. McCarty and Ward suggest the physical environment of a settlement tends to ensure that its urban growth is in radiating sectors rather than concentric zones. In Perth the limited possible points of crossing the Swan River acted as a strong barrier to urban growth south of the river. Similarly, the Mount Eliza ridge, now Kings Park and West Perth, was a deterrent to expansion west. Therefore, urban expansion was predominantly to the east and north of the town centre.

The increase in urban population did little to alter the suburban nature of Perth. The plentiful supply of inexpensive land readily met demands for residential lots and enabled the low density of detached housing to be maintained. A series of town maps drawn over fifty years, indicate the gradual land subdivision of the Perth town site in response to the demands of population growth. (Figs. 1.2 & 1.3) The principal features of these subdivisions are the draining of numerous lakes and swamps for use as market gardens, and then, later, residential purposes, the reservation of several large lots of land for future public use, and the expansion of the subdivided lots out to the eastern and western boundaries of the original 1833 town site, although they extend only as far north as Vincent Street, Highgate.

26 J. McCarty & CB Schedvin, *Australian Capital Cities*, p.27.
27 *Western Australian Yearbook* (1891).
City of Perth, 1855 and 1877. The maps indicate further expansion of the town, creation of public parks and reserves and formation of major routes.
(Source: M Pitt Morison and J White, *Western Towns and Buildings*)
Patterns of urban development are usually related to traffic routes and the means of transport available to the majority of the population. In the 1880s, Perth could be best described as a "walking town", with its relatively close mix of commercial, retail, government and residential uses centred on St George's Terrace. Contemporary photographs show St George's Terrace with residences of wealthy families sharing their prestigious address with bankers and merchants, while poorer citizens lived in neighbouring streets, in close proximity to their places of work. Despite its suburban appearance Perth was still a small compact town, providing essential services and facilities of government, commerce, trade and recreation within easy walking distance.

A small amount of suburban expansion in the 1870s followed the early tracks to areas of activities outside the original town site. An 1877 map of the City of Perth indicates a number of these tracks had become major traffic routes in and around the town site: Lord Street leads traffic onto the old Guildford Road; Thomas Street, marking the western edge of the town site, links traffic onto the Perth-Fremantle Road; Beaufort Street heads up to the town's northern boundary; Fitzgerald Street links the coastal traffic onto old North Beach Road (Scarborough Beach Road), and Charles Street takes traffic beyond the lime kilns at Balcatta up to the agricultural areas of Wanneroo. (Fig. 1.4) In the 1890s these roads, major circulation routes into and around the town, were the logical lines for suburban expansion, when the increasing population associated with the gold-rush demanded more residential land. Later, in the 1900s these roads would also be the logical routes for the introduction of trams and buses, which in turn reinforced the direction of further suburban growth. Today, these roads remain the major arterial routes into the central city.

In the late nineteenth century, in advanced urban industrial nations, developments in the systems of urban transport, the railway, tram and bus systems and, later, the motor car, were important factors in urban,

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and more particularly suburban, growth patterns. This created the "public transport city", in which cheap fares offered the population an opportunity to establish residential neighbourhoods further away from the city centre, in areas where it was possible to buy inexpensive larger residential lots and build larger houses. As the population increases in the new suburbs so public demands increase for the suburban extension of services previously located in the central city. McCarty suggests that in this manner suburban development assumes an autonomous economic growth; it develops a momentum of its own. In the 1880s Perth may not have been economically part of "an advanced urban industrial" state, but it did share similar aspirations and its citizens demonstrated a strong preference for a suburban lifestyle. The opening of the Fremantle-Perth railway, in 1880, offered the public this opportunity. The railway was instrumental in consolidating the few existing small dispersed settlements, around the focal points of new railway sidings, which later became railway stations. The introduction of an efficient railway service and cheap fares were a major selling point for suburban real estate. Consequently, suburban settlements along the railway grew rapidly; Butler's Swamp siding (later to become Claremont Station in 1887) was first used in 1880, followed by sidings at Subiaco (1885), Cottesloe (1886) and Buckland Hill (1890).

The town map of 1883 illustrates the extent of subdivision of residential land in the Perth town site prior to the discovery of gold. (Fig.1.5) It shows early tracks that had become regional roads and highlights the strong correlation between the development of railways, roads and residential subdivision. However, while the map shows a large area of subdivided residential land, contemporary photographs indicate that much of it was sparsely developed; indeed much of it was still bushland. (Fig.1.6)

33 With it came a greater degree of class separation, as more citizens moved out of the city centre and suburban land pricing created socio-economic enclaves.
Fig. 1.5
City of Perth, 1883. The map indicates the subdivision of West Perth and Perth Commonage (Subiaco).
(Source: M Pitt Morison and J White, *Western Towns and Buildings*)

Fig. 1.6
Hay Street, Perth, c.1890. Looking towards West Perth, the photograph illustrates the low density of housing beyond the city core.
(Source: Battye Library Photographic Collection)
1.4 Regulation of Land Subdivision

The government, sensing an opportunity to raise capital, responded to this interest in suburban residential land by alienating crown land adjacent to the railway for subdivision into residential lots. In March 1883 George Rotton surveyed the Perth Commonage for the Department of Lands and Surveys, dividing it into 140 suburban lots. In October 1883, the government offered 115 lots of approximately two hectares for sale, while the remaining 25 lots were reserved for public use. Initial sales of lots were slow and it was not until the discovery of gold in the Pilbara and Murchison regions, in 1889-91, that interest arose. However, with the release of the Commonage land the Perth-Fremantle railway line replaced Thomas Street as the perceived western edge of the city.

Government subdivisions made generous provisions for public open space, which, together with wide roads, effectively reduced the number of lots per hectare. This was in marked contrast to private subdivisions, where developers, aiming to maximise lot yield, were able to subdivide land virtually unhindered by legislation. Selwood suggests that the few regulations associated with the subdivision of land implicitly steered developers to follow certain practices. It was the responsibility of land developers to maintain roads within a subdivision and this proved to be such an incentive to minimise the amount of roads within a development that prior to the introduction of the 1906 Municipal Institutions Act, many developers chose not to include rear access to lots. Similarly, the requirement to provide a minimum area of open space at the side or rear of the house relative to the width of the lot frontage, enacted in the 1887 Building Act Amendments, generally discouraged the creation of wide housing lots. A typical result of these regulations was a subdivision with few streets and small narrow lots of ten metres, or less, as found in Highgate, East Perth and Subiaco.

35 D.L.S., Regulations for the Guidance of Surveyors Performing Duties subject to the Approval of the Survey-General, Perth, Government Printer, 1902.
37 WA Statutes, 1887, 51 Vic. No.17, Act to Amend 'The Building Act', Section 5.
The few regulations that did relate to the subdivision of land were generally associated with health issues, rather than aesthetics or services. The *Building Act* of 1884 and its 1887 amendment, enacted to govern standards of building, made only brief references to standards of subdivision. Section 37 states that a carriage road had to be a minimum width of 9.15 metres, but if the developer argued that the road was not to be used for carriages it could be a minimum of 6.1 metres wide.\(^{38}\) The 1887 amendment was primarily concerned with the issue of health. It aimed to ensure that all rooms within a dwelling would have direct natural lighting and ventilation from "a road, street, alley or passage adjoining" and have in the rear or to one side of the house an open space exclusively belonging to the house.\(^{39}\)

In light of Governor Stirling's original regulations requiring housing in Perth to be set back 9.15 metres from the street, it is puzzling that there was no specific requirement for a setback from the street boundary in *The Building Act*, whereas setbacks from side boundaries and the provision of open space ensured the houses remained detached.\(^{40}\) The amount of required open space varied according to lot frontage, for example a lot with a frontage of less than 4.60 metres was required to have 14 square metres, while a lot of more than 9.20 metres frontage had to have a minimum of 42 square metres. These laws fell far short of providing any real regulatory control of land subdivision. There were no laws governing the minimum lot size and the provision of rear access to sites from lanes or right of ways for sewerage disposal was not made mandatory until 1906.\(^{41}\) The *West Australian* made mention in "The Place We Live In" of "jerry built" housing on "paddocks cut for building purposes", having streets no more than 4.6 metres wide and no rights-of-way.\(^{42}\) A subsequent article expressed concern that it was possible to purchase a block of residential land of only 82 square metres, which, for reasons of standards of health and social amenity, the author believed was quite unacceptable in Perth. Despite publicly expressed concern for the narrowness of streets within new subdivisions legislators did not respond. It was not until the introduction

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\(^{40}\) Setbacks from side boundaries were intended to prevent the spread of fire from property to property. Despite the lack of specific legal requirement of a street setback, houses in Perth and suburbs were uniformly setback, usually 5.0 metres or more.


\(^{42}\) *West Australian*, "The Place We Live In", 6 September 1895, p.3.
of the *Municipal Institutions Act* of 1895 that the minimum permissible width of public roads was increased to one chain (20.1 metres).43 Meanwhile poor quality subdivisions took place.

1.5 Domestic Values

When the first British settlers arrived in the Swan River settlement, in 1829, they included in their baggage their legal, religious and social values together with their servants, farming equipment, work tools, books, pianos, bibles, paintings and horse-drawn carriages. These cultural values and attitudes were not brought in unconsciously; on the contrary, leading settlers, such as George Leake, William Mackie and George Shenton, whom Stannage refers to as members of the "investing class", strove to ensure, through the structure of their new society and the enactment of its laws, that their own middle-class values would shape the future development of the colony.44

As a consequence of their physical isolation on the south-west coast of Australia, their heavy dependence on the British colonial administration for political and financial decisions, the lack of communication lines and limited transport links with the eastern colonies, the settlers of Western Australia shared far stronger cultural and economic ties with Britain than with their fellow Australians. It was a dependency on the "home country" which was to continue until the move for a federation of Australian states focussed attention on the nation, the transcontinental telegraph linked the east and west coasts of Australia and Fremantle harbour, the state's new major port, directly linked Perth with the outside world.45 This very real sense of isolation, of being on the periphery of the empire, meant that events and issues in the "home

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43 In the latter half of the nineteenth century a chain (20.1 metres) was the basic unit used in surveying. In many cities the chain was adopted as a standard road width.

44 C. T. Stannage, *The People of Perth*, p.12. This point was most evident in the introduction of *The Master and Servant Act of 1842*, which aimed to make it legally difficult for servants to leave their masters' employment to establish their own life in the colony. Poor white settlers were expected to "improve" their lot through hard work, while the aboriginals were thought to have no part to play in this new society.

45 Prior to the opening of Fremantle harbour most shipping called into Albany.
country" were followed more keenly and Victorian ideals, morals and values had a greater potency. The arrival in Perth of each new shipment of letters, newspapers, journals and books was cause for great excitement amongst the colonists and the material was avidly read and re-read until the next shipment arrived.46 Throughout the nineteenth century the settlers in Perth, and Western Australia, closely shared the domestic ideals and values of Britain, with its major focus on the family and what John Ruskin referred to as the "sanctity of a good man's house".

In Britain, during the first half of the nineteenth century, the economic, political and social power base had shifted from the Georgian rural landowning gentry to the Victorian urban industrial middle class. At the highest level of this middle class were men engaged in entrepreneurial, managerial and professional occupations and at the lowest level they were in clerical positions and retail trade. Membership into this new elite offered material gain, social mobility and political, moral and cultural leadership. Although the Victorian middle class represented approximately one sixth of the total British population, with the tacit approval of the upper class, it managed to establish the accepted attitudes and values of the nation, defined the social conventions and passed the laws which reflected and reinforced those attitudes, values and conventions.47 This shift of social and political power from the landed gentry to the mercantile class was also evident in Western Australia. The leading members of the farming class, the Bussells, Molloys, Hassells and Dempsters, were unable to exert the same influence as the members of the business class based in Perth, the Leakes, Samsons, Shentons, and Stones; the latter group were in direct contact with the colonial administration in Perth and therefore were more influential in shaping the values and the laws of the colony.48

Houghton's study of The Victorian Frame of Mind, concludes that in Britain, during this period of rapid economic change, and social mobility, there was an underlying feeling of anxiety and insecurity amongst the

46 Canon A. Burton, "The Diary of O. P. Stable", JWAHS, (Feb) 1945, p.18.
47 J. Burnett, A Social History of Housing, p.95.
middle class, which ran counter to its outward self-confidence and pride. Unable to match the leisured lifestyle of the upper class, but needing to firmly distance itself from the working class, the Victorian middle class established self-advancement, respectability, duty, gentility and, ultimately, salvation as its distinguishing goals. Underpinning these goals was the one social ideal which they believed was not subject to change, an ideal which could withstand the chaos and turmoil of the industrial world and yet an ideal which gave meaning and purpose to the daily toil. That institution was the family, and as the family was the cornerstone of middle class society, so too the home was its foundation.

Amongst the leading Victorian essayists the idealization of the family and the associated sanctity of the home arose from their development of a dichotomous view of the world, one in which there were perceived to be two quite separate spheres of activities, roles and responsibilities: a public sphere and a private sphere. In the public sphere, in the world of business, politics and material gains, the spirit of competition reigned supreme. The Darwinian concept of the survival of the fittest was broadly accepted; in a laissez-faire economy only the hardy advanced. However, social critics believed that daily exposure to the rough and tumble of the public sphere was bound to harden a man and coarsen his sensibilities. Carlyle warned his readers that the public sphere was an alien world, "not a home at all." However, social critics believed that daily exposure to the rough and tumble of the public sphere was bound to harden a man and coarsen his sensibilities. Carlyle warned his readers that the public sphere was an alien world, "not a home at all." Ruskin expressed concern that "the man, in his rough work in open world, must encounter all peril and trial." Hence the public sphere was regarded as being strictly male territory, in which it was the duty and responsibility of the breadwinner to secure the financial and material well-being of his family. Correspondingly, it was in the private sphere that the male sought refuge and respite from the harsh public world. In the warm embrace of his family the "world weary worker" found "a shelter from the anxieties of modern life, a place of peace where the longing of the soul might be released" and a shelter for those moral and spiritual values which the public sphere threatened to destroy. The private sphere was centred around the family and the Victorians firmly established the importance

49 W. E. Houghton, The Victorian Frame of Mind, p.188.
50 T. Carlyle, Past and Present, p.264.
51 J. Ruskin, Sesame and Lilies, p.108.
of the family as their primary social institution. Without a firmly based domestic system it was believed, life would be without purpose and society without order. Therefore, marriage was prized as a stabilizing social force, having a moral and civilizing effect on both partners, while instilling a sense of responsibility and industry in the male. It was within the family that the moral, religious, ethical and social beliefs were learnt; it was within the home, under the guidance of the family that children were developed into good citizens.

The role of the wife within the structure of the family, and Victorian society, was well defined and a good wife was expected to strive towards achieving it. In numerous magazines devoted to the subject, with titles such as The Home Circle, The Home Friend, The Home Companion, Family Record and Family Treasure, the duties and responsibilities of the ideal wife were clearly spelt out. In the opening chapter of her definitive Book of Household Management Mrs. Beeton emphasised the need of a wife to acquire a sound knowledge of household duties to ensure "the happiness, comfort and well-being of a family." Mrs. Beeton quoted from The Vicar of Wakefield to support her views, but she could have easily quoted any number of other essayists and novelists of the time, the attitudes and values inherent in her book were simply repeating and reinforcing the widely accepted Victorian view of the wife's role within the private sphere. That role encompassed three prime characteristics: domesticity, femininity and gentility. Domesticity defined the role of the female, confining her activities within the private sphere, except for philanthropic work, which was regarded as an extension of the domestic role; femininity, a late eighteenth century ideal, from which developed a psychological justification for limiting the female's role to the private sphere; and gentility, which defined the ideal manner in which the female should carry out her role, within the private sphere. From all of this emerged an image of the ideal woman, one whose responsibilities were "to her husband, her children, her servants, her house and her own

54 A. S. Wohl, The Victorian Family, p.10.
56 I. Beeton, Book of Household Management, p.1. This enormously popular book, which mixed advice on manners, morality and management, sold 60,000 in its first year of publication (1861) and is still in print.
person", in that order of priority; a woman who was "graceful, gentle, patient, pure, pious, submissive, self-sacrificing and domestic"; a woman who had sufficient time and income to develop the non-productive accomplishments of dancing, drawing, playing a musical instrument, fine needlework and other genteel pastimes.57 It was John Ruskin, in his lecture "Of Queens' Gardens", who perhaps most clearly expressed the distinction between the public and private spheres of activities and their respective male and female roles in the ideal Victorian society; "The man's work for his own house is, as has been said, to secure its maintenance, progress and defence; the woman's to ensure its order, comfort and loveliness."58 The two roles, within the public sphere (male) and private sphere (female), were seen to be symbiotic, for as the cult of domesticity attempted to locate family life outside the area of economic struggle it was the success, or failure, of that economic struggle which determined the level of attainment of the ideal, middle class, lifestyle. While hard work, talent and initiative could bring a man economic status, it was through his family life that he achieved social standing. "The style of family life, the quality of domesticity achieved, was the final determinant of the niche he occupied in the social structure."59 These ideals of home added a new dimension to the house.

While most of the social structure which supported development of this strong domestic philosophy in Britain was not evident in Perth, the philosophy itself was wholeheartedly embraced, as can be seen in newspaper articles such as "Home and its Pleasures" and numerous colonial letters and diaries.60 "Home is the congenial soil of the purest affections of the noblest virtues of the heart", wrote Emma Thompson, the youngest daughter of Surveyor-General J.S. Roe, carefully copying into her diary a tract impressing upon its young reader the sincere merits of family and home.61 While wives and young girls were encouraged to

58 J. Ruskin, Of Queens' Gardens.
60 "Home and its Pleasures", Perth Gazette, March 1859
61 Extract from Emma Thompson's diary (1857), as cited in M. Aveling (ed), Westralian Voices, p.277.
fulfil their role of homemaker the men of the colony were exhorted to be the home providers. In 1882, O.P. Stables, school teacher and public servant, felt it necessary to put by "sufficient to buy land and build a modest home, that he might bring a lengthy courtship to a close". His courtship lasted four years.

For the Swan River settlers, burdened with a disorganised expensive labour force, a short supply of material goods, a lack of services and without a close social network of family and friends it was difficult to give full meaning and relevance to these lofty Victorian domestic ideals. Pragmatic compromises had to be made, for the short term at least, and therefore the more ephemeral elements of the domestic ideals were quietly put aside, while the more basic elements were emphasised. "The drawing room accomplishments of singing, dancing, painting and crochet would stand no shadow of a chance against the highly prized virtues of churning, baking, preserving, cheesemaking and similar matters" was the practical advice given in Phillip's Emigrants' Guide to Australia.

In Perth maintaining some semblance of a respectable appearance was not an easy task for anyone. While the high ranking government officials were paid relatively comfortable salaries and the leading merchants earned solid incomes, the farmers, tradesmen and labourers had to bargain and barter their own produce and services in the open market. But it was the lower middle class, settlers on small fixed incomes such as ministers of the churches, teachers and the lower grades of government officials, who suffered the most. As Mrs. Millett, the vicar's wife, knew only too well from personal experience "their incomes are very small compared with the expenditure absolutely necessary for the maintenance of themselves and their families in a position of respectability." In Britain the threshold for entry into the middle class was generally accepted to be an annual income of £150, but this amount steadily increased as the "paraphernalia of gentility" continued to expand. In

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64 Mrs. E. Millett, An Australian Parsonage, p.405
1858 the *London Times* conducted a lively debate on whether one could be comfortably married on an income of £300.65 In 1861 Mrs. Beeton advised her readers that, from her "scale of servants suited to various incomes", a household with an annual income of £200 or £150 could afford a "maid-of-all-work", but it would require an income of about £500 a year to have a cook, housemaid and nursemaid.66 In Western Australia such debates were probably cause for wry smiles, or anguished sighs, amongst the colonial gentry. Gentility was all very fine, but under the circumstances in the colony, it was necessary for aspirations and behaviour to be modified. Social position and pride had to be put aside when ladies, newly arrived in the colony, realised "they are obliged to wait upon themselves and perhaps even to wash their own clothes."67 Frequently voicing dissatisfaction with the available servants, or unable to afford the employment of domestic servants, the majority of colonial ladies had to do their own domestic work.68 In letters to family and friends "back home" in Britain, some, like Charlotte Bussell, tried to keep up an appearance of gentility and made light of the fact that they did manual tasks, including milking and making butter and cheese, while the male members of their families struggled to establish their farming properties.69

Fashioning a comfortable home was not an easy task, as Mrs. Millett noted; "when the interior arrangements of a rough colonial house are in question....many points must be considered which could never occur in England", well at least not in the comfortable England she and her middle-class British readers experienced.70 While her house was located in York, rather then Perth, Mrs. Millett's description of it is informative of housing conditions throughout the colony; it was "built somewhat on the model of an Indian bungalow, being low and long and thickly thatched and surrounded on all four sides by a verandah", although it

65 J. Burnett, *A Social History of Housing*, p.84.
68 "I am always much engaged in domestic matters and with the needle", Eliza Brown wrote to her father (Nov.,1846), in M Aveling (ed), *Westralian Voices*, p.171.
70 Mrs. E. Millett, *An Australian Parsonage*, p.59.
Fig. 1.7
'Alpha Cottage', St George's Terrace, Perth, c.1868. An example of a colonial bungalow, surrounded by a verandah. Houses in Perth usually had a shingled roof.
(Source: Battye Library Photographic Collection)

was more likely that a house in Perth would have a shingled rather than thatched roof. (Fig. 1.7) The four rooms were each approximately 2.4 metres square, the walls were built of "pug", well pounded mud, which she tried to wallpaper several times without success and the floors were variously wood, mud or brick. She was fortunate to have glazed windows, but, she noted, in poorer houses the windows were covered in calico.71 Knowing instinctively how she would like to arrange and decorate their York house, but realising how expensive the meagre household supplies were in the colony Mrs. Millet found it was necessary to moderate her desires and be content with such contrivances as she could devise by her own ingenuity.72 She noted that jarrah boards, when polished, would make "the handsomest flooring of any", but recognised that "the colonist would probably take fright at the idea of the labour involved in keeping up a polished floor". This was not because colonists were lazy, but because with the shortage of labour, both domestic and manual, time spent polishing floor boards could be used more productively on some

72 Mrs. E. Millett, *An Australian Parsonage*, p.63.
other task.  It was to be many years before the luxury of polished jarrah floor boards would be enjoyed in the average houses of Perth.

In an isolated colony, cut off from their British family network the settlers valued marriage, domesticity and the family. Their importance within the colony was threefold; it was necessary to establish a local family support group; families would naturally increase the colony's small population, and, finally, in a colony with a marked imbalance between the sexes, marriage would provide a stabilising, civilising and moral force, instilling responsibility and industry in the marriage partners. The result of this colonial emphasis on marriage and establishing families was that 90% of brides were under 25 years old, (75% under 21), and within 18-20 months of marriage, the first child was born. Thereafter the colonial wife could expect to be pregnant every 24-28 months, until she was in her forties. This emphasis on marriage also exacerbated the domestic servant problem; single servants and governesses in the colony were also sought after to be wives and once wed they tended to leave their domestic service.

While unmarried men might accept rough and ready living conditions, it was the objective of married couples to have a house of their own. The detached cottage or villa, with its own garden, had been established as the Australian colonial aspiration, for both the successful professional like Richard Mahony and the unskilled labourer like Bert Facey. Nathaniel Ogle, in 1839, informed his British readers that "after four years' honest work at fair wages" it should be possible for them to acquire

73 Mrs. E. Millett, An Australian Parsonage, p.64.
74 In 1854, due to the influx of male convicts, the ratio of females to males (aged over 21) was 21:100 in the metropolitan area; in 1881 the ratio of females to males (aged over 15) was still a high 68:100. M. Anderson, Exploring Women's Past, p.89.
75 K. Alford, Production and Reproduction, p.150.
76 Eliza Brown, Letter to her father, (Nov., 1846), in M. Aveling (ed), Westralian Voices, p.171.
77 See H. H. Richardson, The Fortunes of Richard Mahony and B. Facey, A Fortunate Life for two different descriptions of Australian characters "making good" in the colonies.
their own land and house. Equally, in 1872, there was no doubt in Mrs. Millett's mind that it was the chief ambition of any hard working man in the colony "to establish himself in a little farm of his own with his wife and family around him" and, farm or house in Perth, this ambition was possible, she believed, in the course of saving money over five or six years. Politicians in Perth certainly believed marriage and, with it, home ownership to be a civilising force, as George Throssel made clear in a parliamentary speech; declaring that "when a man has his own bit of ground and his own little home it tends to improve him in every way. It gives him a feeling of independence, it increases his self respect, it enlarges his responsibilities, it gives him a home of his own where his affections may centre, and altogether it makes a different man of him and a better citizen."

The Victorian ideals of domesticity, femininity and gentility were of importance to the colonial settlers. However, the degree of attainment of these ideals in Perth and the rest of the colony was quite different from that in Britain, due to the vast differences in circumstances in each country. Although the ideal of gentility might be suppressed because of short term practical reasons, in the long term it was not neglected. Ideals are set as something to strive for, a role model, a goal to be attained with some great effort, a focus for achievement, particularly in times of change and uncertainty and for these reasons the colonial settlers clung so dearly to their British Victorian middle class ideals.

As the colony grew in population, as land holdings were secured, trade expanded and wealth produced, the opportunity to experience the life of gentility emerged. The Burt, Dempster, and Shenton families are

78  N. Ogle, The Colony of Western Australia: A manual for Emigrants to that Settlement, (1839), reprinted Sydney, John Verges, 1977, p.271. This real possibility of home ownership was little more than a dream for most of the population living in Britain or Europe.
79  Mrs. E. Millett, An Australian Parsonage, p.405.
80  PD WA 2 1892 697.
81  Eliza Brown might manage without a servant for eight months, but she could still anticipate sending her youngest son "to Eton, Westminster, Harrow or the High School Edinburgh, then if we are prosperous we might send him to college (university)" to gain a law degree, Letter to her father (1847), in M. Aveling (ed), Westralian Voices, p.171.
illustrative of the successful colonial experience. The men managed their farms, businesses and investments, they had experienced the hardships of colonial life, but in return they came to enjoy the material rewards of their labours. Their women provided comfortable homes, heirs, and maintained public appearances suited to their husbands' social standing. Their children were sent to private schools, in Perth and in England, to be educated and prepared for their future role within the family businesses and colonial society. Their Victorian middle class ideals were made manifest, and their houses stood as proud testaments to their success.

1.6 Housing Finance

Before 1900 financial investment in Australia in commercial and industrial ventures was much less than residential investment. The directors of financial institutions saw it as their role to back residential development, while very little of their funds went to support the growth of industry. The reluctance of banks to advance anything other than short term finance placed a restraint on the development of secondary industry in Australia, while correspondingly it favoured housing loans. Moreover, the directors of financial institutions regarded home ownership as engendering adherence to their own middle class social ideals of industry, responsibility, sobriety and thrift and therefore offered their financial support and experience to the establishment of building societies. This was clearly reflected in the minutes of the inaugural meeting of the Perth Building Society (PBS) on 17 October 1862, in which it was pointed out to the gathering of leading Perth citizens that one of the positive results of establishing the building society would be to "induce frugal and provident habits among industrious classes, promote independence and morality and contribute to physical and moral welfare."

83 N. G. Butlin, Investment in Australian Economic Development, p.213.
84 R. M. Lourens, The Perth Building Society, p.27.
The success of building societies in the promotion of home ownership in the Australian colonies is unquestioned. In 1883 Twopeny noted; "It is difficult to overestimate the social value of the work that has been done by the building societies. In the suburbs of the large towns you see whole townships built entirely by these societies."\(^8^5\) Of course, he was referring primarily to the situation in Victoria, prior to the collapse of the building boom, but even in Perth the building societies were instrumental in promoting and financing home ownership. By 1884 Perth Building Society had financed the construction of 184 buildings in Perth.\(^8^6\)

It was the policy of Perth Building Society to lend money only for the construction of brick houses. This restrictive policy was introduced as a means of ensuring the security of the loan by maintaining the value of the building stock, which, given the number of timber houses in Perth destroyed by fire, was regarded as a wise move. The basis for this policy was economic not social, but ultimately this policy served to reinforce the higher social status of brick construction in Perth. Because of the closed nature of Perth's society the leading citizens who directed the lending policies of the banks and building societies were frequently the councillors who established Perth City Council's building regulations and, in many instances, were also the members of parliament who enacted the state government's Building Acts.\(^8^7\) This was another example whereby Perth's middle class exerted its economic policies and social values on the development of local housing.\(^8^8\)

1.7 Building Industry

From the founding days of the Swan River Settlement there were difficulties with developing a building industry. The few labourers

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87 G. F. Stone, a founding director of P. B. S., was the colonial Attorney-General, George Shenton Jnr, a director of the Western Australian Bank, was Mayor of Perth (1875-77, 1880-84 and 1886-88) and a member of the Legislative Council. Through their political roles, financiers were able to reinforce, through legislation, their preference for brick construction. A number of these decision makers also held shares in local brickworks.
skilled in building were indentured to colonial landowners engaged in establishing tenure of their land grants and were therefore fully occupied. Of the free skilled labourers in the colony, Nathaniel Ogle wrote in 1839, "many of those persons who come to the colony in that capacity are raising themselves gradually to the rank of owners or occupiers of land on their own account, and thus contribute to increase the demand for labour, whilst at the same time, they diminish the available amount of supply of it." Therefore a decade after settlement began Ogle was recommending to potential immigrants that "blacksmiths, carpenters, joiners, brickmakers, stonemasons, shoemakers, wheelwrights, millwrights and all artisan, are certain of succeeding and becoming independent, if industrious and sober." But despite such strong encouragement skilled tradesmen did not migrate to Perth and the building industry developed at a slow rate.

The public works programme associated with the transportation of convicts (1850-1868) stimulated the building industry, particularly brick making and stone cutting and by the 1870s Perth had three brick yards. The bricks were hand made, a slow and expensive process, which produced bricks of uneven size and varied colour. In many public buildings advantage was taken of the distinctive coloration of the bricks to enliven walls with polychromatic patterns, but there is little evidence that this decorative technique was deliberately employed in private housing.

The few timber companies in Western Australia were more interested in felling timber for the lucrative export market rather than use in local housing. The local demand for timber products was low, therefore timber turning machinery did not find its way into the colony. All mouldings, including window sashes, skirtings and architraves, were imported or made by hand. This situation continued until Sandover and Mayhew opened a large building trade supply shop in 1882. The situation in
Perth was in marked contrast to Melbourne, where as a result of the building boom the Melbourne building industry, employing up to 20,000 workers, was specifically organised by trade into groups of skilled artisans and tradesmen, supplied with a wide variety of materials by numerous timber joinery works, brickyards, ironmongers and building merchants. It would be more than a decade before house builders in Perth enjoyed similar support from tradesmen and building suppliers. As a result, the majority of houses in Perth, prohibited by cost from using imported materials, were of simple detail and plain finishes.

1.8 Building Regulations

In the second half of the nineteenth century, Britain and other industrial countries, experiencing rapid urban growth as a consequence of industrialisation, were forced by health concerns to introduce housing reforms. Spurred on by the example of their British counterparts, social reformers in the Australian states were quick to respond to similar concerns in the expanding cities of Australia. Despite the low level of industrialization Australia had a highly urbanised population and reformers were keen to ensure that Australian cities did not repeat the mistakes of the mother country. A "sanitation science" quickly evolved, with many writers claiming to be experts on the subject, but despite much of the quackery associated with "sanitation science" there was also plenty of sound advice regarding site drainage, supply of clean water and sewerage and waste water disposal. Although much of this advice was originally intended to reform mass housing conditions, in Perth it was to affect social and architectural attitudes towards the design of individual houses and these were reflected in the building regulations introduced by the colonial government in 1884 and the subsequent amendments.

In the late 1870s and early 1880s Perth experienced an increased number of cases of typhus, dysentery and enteritis, diseases spread mainly by primitive sanitary conditions. This prompted medical authorities to

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press the government to introduce sanitation reforms. The sources of disease, highlighted in 1875 by Dr. Waylen, the Colonial Surgeon, were "a total absence of ventilation, as well as of drainage", but the principal source was water wells contaminated by cesspits.95 Despite support from prominent citizens, including Governor Broome and the Bishop of Perth, there was resistance to sanitation reform. George Shenton, for example, blamed the ill health of the working class on their behaviour and morality, rather than their housing conditions and lack of sanitary services.96 A number of Perth City Councillors argued that the expense of reforms was too prohibitive, but eventually the politicians were persuaded of the necessity for reforms and these were incorporated in The Building Act of 1884.97

The Building Act was introduced into Parliament on the basis that "the time had come when it was desirable that the building of houses, at all events in the city of Perth and the town of Fremantle, and perhaps also in some other places, should be regulated by law", an argument which tended to downplay the significance of the legislation.98 Perth City Councillors arranged for the regulations to cover buildings only within the area bounded by the Swan River, Bennett, Wellington, James, Melbourne and Spring Streets. Of the forty four sections of the act only four specifically related to building construction. These sections governed roofing materials (thatch was banned), external walling (inflammable materials were banned), the construction of foundations and party walls. Sections 20-22 related to health issues, including the provision of "every house or building with its own water closet, earth closet, or privy."99 Other regulations governed the safety of the public, street widths and drainage. Overall, by current standards, it was not a very stringent, nor detailed, set of regulations and it was not surprising that three years later it was necessary to introduce amendments.100 That health issues were influencing the building regulations was apparent in

98 PD WA 9 1884 107.
99 WA Statutes, 1884, 48 Vic. No.15.
100 WA Statutes, 1887, 51 Vic. No.17.
the legislative preamble of the Director of Public Works, JA Wright, which detailed the necessity "to regulate the subdivision of building lots, to secure sufficient yard room to ensure proper sanitary arrangements, to secure proper ventilation in each room of a dwelling, that all ground floors of dwellings be raised sufficiently to admit of a free current of air, etc." That it was the intention of the building regulations, through the introduction of the 1887 amendment, shifted ground to ensure the standard of health in Perth and other towns would improve is apparent from a section in the 1888 WA Year Book, entitled "Health Hints", which outlined the key points associated with the design of healthy housing as follows; "The perfection of house building is to construct a family dwelling in such a way that no room shall be dependent on another for its warmth, that each apartment shall have a sufficient and independent ventilation of its own and that all the drainage shall be conveyed outside the walls, above the ground, to the place of deposit through pipes visible to the eye so that if there be the smallest leakage it can be instantly detected." As reflected in the government’s building by-laws, this might have been the preferred manner in which housing in Perth should be built, but, in the late 1880s, it bore scant resemblance to the actual design and sanitary condition of the majority of the existing houses. However, it did indicate the government was attempting to exercise some control over standards of public health and housing construction.

1.9 Housing

Having established the family as the primary social institution of Victorian life, and the home as the nurturing environment in which all that was essential for the well being of the individual, the family and society dwelt, it was necessary that the house, the building itself, should be a physical expression of the Victorian domestic ideal. "A proper place in which to rear children, to entertain friends, to retreat from the cares of the world and take an honest pride in one's possessions and achievements."103

101 PD WA 12 1887 154. The regulation relating open space on site to street frontage had the unintended, negative, effect of encouraging developers to create narrow front subdivisions.
103 J. Burnett, A Social History of Housing, p.186.
But these genteel middle class domestic ideals, and the house which gave them visual expression, had evolved and developed in the thriving wealthy industrial urban society of Britain. Therefore, their relevance in the fledgling colonial society of Perth might prove to be doubtful, not because of a lack of their acceptance on the part of the colonists, but because of the glaring disparity between the lofty ideals and the harsh reality of local circumstances. However, the leading citizens and the colonial administrators, in particular, attempted to uphold and maintain these ideals. This was true of British colonies throughout the empire. King quotes a British colonial in India, who wrote; "we brought with us in our home lives almost exact replicas of the sort of life that upper middle class people lived in England at that time", but such comments might say more about the colonists' intentions rather than their real experiences. While it is true that in colonies where there was an indigenous labour force and building tradition, as in India, it was not impossible to approximate the British middle class lifestyle; in other colonies, such as Western Australia, conditions were such that this was difficult to achieve. Despite these difficulties the colonial settlers in Perth strove to maintain their British standards. Visitors to Perth could assure friends in Britain that in Captain Irwin's place "they tasted all the comforts of an English home." Charlotte Bussell wrote that her bedroom cum sitting room looked "so thoroughly comfortable and so English-like that all who visit us expressed the greatest admiration of it." Perhaps these are rather generous descriptions of domestic conditions in the colony, but they did reflect how the colonists would rather their world to be.

In the early phases of the development of the Swan River colony such high notions were out of the question. Initial conditions in Perth were such that only rudimentary buildings could be constructed. Early settlers, obliged to work their land in order to secure their government grants, had limited materials and scant labour to devote to housing. Amongst the wealthy settlers, a small number brought prefabricated

Fig.1.8
Homestead, 'Maddington Park', 65 Olga Road, Maddington. Built c.1832, the house is an early example of 'Georgian-survival' housing in the Swan River colony.
(Source: I Molyneux, Looking around Perth)

Fig.1.9
Ensign Dale's house, St George's Terrace, Perth, c.1860. Houses in Perth were often incrementally extended, as money and circumstances permitted.
(Source: Battye Library Photographic Collection)
houses from Britain, a few could afford to import bricks from the eastern colonies, while others made do with local stone. Able to use their indentured labourers, whom they had brought out from Britain, wealthy settlers built simple versions of one or two storey Georgian houses. These houses generally incorporated a ground floor verandah similar to those utilised by the British colonials in India. They provided shade and protected the lower walls from the weather. (Fig.1.8) However, the majority of the settlers made do with timber, stone, or wattle and daub huts of a rudimentary design, more akin to vernacular English farm buildings, which were extended as needs and money allowed. (Fig.1.9) Later, as a crude building industry was established more substantial houses were built. In the 1840s local bricks, hand made in East Perth, were available and a number of building tradesmen, including B. Maycock and J. Chipper, established small, but thriving contractual businesses. By the 1850s houses, such as Mount House (1850) incorporated more detailed finishes, as more money and effort was able to be invested in the houses. (Figs.1.10 & 1.11) Generally, the more substantial houses were built in the tradition of the formal symmetry of the late Georgian rural house, or, as Michael Beasley perceptively described it, "Georgian Survival." This form was consistently used with little variation, or development, up until the 1880s, in much the same way as the Cape Dutch style was consistently used in the South African colonies.

The convict era (1850-68) brought to the colony an influx of cheap labourers, which prompted a surge in the building of public works and this markedly improved the general standard of colonial building. Several government and public buildings, designed by Captain E.W.Y. Henderson, Richard Jewell and James Austin, exhibited stylistic detailing generally not evident in contemporary domestic architecture in the colony. Perth gentry did not take advantage of the architectural services of Richard Jewell or James Austin in the same manner as their

107 The role of the verandah in Australian housing is discussed in the following chapter. A. D. King, The Verandah, pp.224-243, provides a detailed outline of the origins of verandahs in Australia.
109 M. Beasley, "Architectural Styles and their Sources since 1831", p.193, in Western Towns and Buildings. This description has since been used by other architectural historians, including I. Molyneux, Looking around Perth, p.1.
Figs. 1.10 & 1.11
'Mount House', 1851, and a later townhouse, 1878, both in St George's Terrace, Perth. Examples of the continuing use of the 'Georgian-survival' style in Perth.
(Source: Battye Library Photographic Collection)
peers in Sydney employed John Verge, or Mortimer Lewis. It is difficult to determine whether this was a matter of the lack of architects in the colony, or a reluctance to pay for architectural services. Even the numerous architectural pattern books of the period appear to have been ignored as a source of architectural inspiration, despite many authors, including the popular Loudon, highlighting the appropriateness of their house designs for those living "in newly colonized countries like Australia."\(^{110}\)

The only exception in Perth to this general trend to build in the "Georgian Survival" style was the Perth Deanery (1859), a fine example of a pattern book *Gothick* cottage.\(^{111}\) The Right Reverend George Pownall, a member of the Ecclesiological Society, secure in his professional and social position and with an independent income, was perhaps one of the few in the colony who could afford to indulge himself in the niceties of architectural style. (Figs.1.12 & 1.13) Generally, there was no domestic architectural work in Perth for anyone professing to be an architect.\(^{112}\) The majority of settlers in Perth had more pressing problems to tackle and made do with a house of more basic design; a roughly finished, rectangular, hipped roofed (country) cottage. (Figs.1.14 & 1.15) In 1874, Dr. Shaw, the Acting Surgeon-General, reported that in Perth "the houses are nearly all detached and standing in about an acre [0.4 hectare] of ground; they are built of brick, and roofed with shingles, and generally have a verandah back and front."\(^{113}\) In this regard, the hard pressed settlers were little different from the vast majority of their fellow colonists in the eastern states. In 1883, Twopeny noted that the most favoured type of Australian working-class house was a single storey

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110 J. C. Loudon, *Encyclopedia of Cottage, Farm and Villa Architecture*, p.8. There are a number of houses, of pattern book design, in the other Australian colonies and it would be reasonable to expect some in Western Australia. Records indicate that Governor Stirling's library in Perth included Nicholson's *Architecture* (3 vols.), as cited by C. T. Stannage in *The People of Perth*, p.12, although there is no evidence to suggest that Stirling used these books as a design guide for any colonial buildings.

111 The Deanery in Perth displays a strong resemblance to Loudon's gothic cottage, illustrated on p.110.

112 Between 1850 and 1875 Richard Jewell, an architect, and Cpt. E. Y. W. Henderson, a Royal Engineer, were most frequently engaged to design public buildings in Perth.

113 As cited in S. Hunt and G. Bolton, "Cleansing the Dunghill", in *Studies in Western Australian History*, No.2 (March), 1978, p.3.
Fig. 1.12
"A dwelling in the Old English Style." J. C. Loudon's illustration, No. XXXI, 1833.
(Source: J. C. Loudon, Encyclopaedia of Cottage Architecture)

Fig. 1.13
The Deanery, St George's Terrace, Perth, 1859. A rare example of pattern book architecture in Perth.
(Source: Battye Library Photographic Collection)
Figs.1.14 & 1.15
Illustration and plan, 70 Roe Street, Perth (Northbridge). Built c.1863, it is an example of mid-century vernacular cottages in Perth.
(Source: Planning Department, Perth City Council)
rectangular block bisected by a passage of 1.0 to 2.5 metres width, with
the drawing and dining rooms in front, the bedrooms behind and the
kitchen and scullery in a lean-to section across the back. The principal
differences to be observed between these houses of similar layout were in
their quality of details and finishes. Twopeny also noted that the upper
middle classes in the colonial cities, except Adelaide, generally favoured a
two storey house similar to that of their English counterparts. The
Australian upper class preference for the two storey house was largely
based on its identification with social status in the "old country", a
symbol of social distinction that continued to be used well into the 1900s.
As an English gentleman, Twopeny unconsciously supported this symbol
of upper class status, initially expressing a prejudice against the general
Australian preference for the single storey detached dwelling. However,
upon reflection, having lived in Sydney for some time, he came to
appreciate the convenience of never having to go upstairs and he later
commented, "for my own part, I should never care to live in a two-storied
house again." But for those Australians less assured of their social
standing in the new world the two storey house would continue to
symbolise the gentleman's residence, with all the status that it implied,
despite the inconveniences. In Perth, from the 1840s through to the early
1910s, the new town houses of the wealthy families, in St George's
Terrace, East Perth and, later, West Perth, would follow in this tradition.

The middle class domestic rituals of mealtimes and social intercourse, the
separations of adults from children and family from servants, demanded
that a model Victorian house provide more sophisticated planning and
"multifarious" rooms of specific use in order for the household to function
properly. Kerr's, *The Gentleman's House* (1864), a highly influential
Victorian text on domestic architecture, outlined twelve general
considerations for a good house plan, while Stevenson's *House
Architecture* (1880) revised Kerr's list to ten, which reflected a slight shift
in social priorities over the intervening years. What both books had in
common was an emphasis on spaciousness. Stevenson noted that in
"keeping pace with our more complicated ways of living we have not only
increased the number of rooms, in ordinary houses, but have assigned to

114 R. E. N. Twopeny, *Life in Australia*, p.34.
115 R. E. N. Twopeny, *Life in Australia*, p.34.
Fig.1.16
Woodbridge House, Third Ave, West Midland. Designed by James Wright in 1884, it was described as "the handsomest private residence that has yet been erected in the Colony."
(Source: I Molyneux, Looking around Perth)

each a special use." While the more palatial mansions in Melbourne and Sydney, built in the boom years of the 1880s, followed these recommendations, few houses in Perth were designed in the same manner. "Woodbridge" (1884-85), designed by James Wright, one of the few private architects working in Perth in the 1880s, for Charles Harper, the wealthy and influential proprietor of the West Australian newspaper, did follow these social dictates of spaciousness and class separation. However, "Woodbridge", described at the time as "the handsomest private residence that has yet been built in the Colony" was the exception to the rule. (Fig.1.16) Perth's domestic architecture prior to the gold-rush was of a more prosaic nature than "Woodbridge".

117 See S. Forge, Victorian Splendour.
1.10 Summary

Prior to the gold-rush domestic architecture in Perth was generally quite basic. For nearly sixty years the colonists endured all manner of hardships as they struggled to establish the colony; it was a period marked by the necessity of 'making do'. A shortage of population, capital, skilled and unskilled labour and building materials inhibited the growth of a building industry, which in turn limited the construction of domestic architecture of any significance to only a few houses. There were few trained architects resident in the colony and they were employed primarily to design buildings of public importance. With only a handful of the population having enough wealth to be able to call upon their services, architects had little impact on the development of housing in Perth in this early period of growth. Therefore, it is not surprising that the debate concerning domestic architecture and many of the developments in housing, which occurred in Britain and the eastern states of Australia, were of little immediate relevance in Perth. The symmetrical Georgian rectangular house, with which most of the older settlers were familiar, with the addition of verandahs to moderate the impact of the local climate, was regarded as being quite adequate for local needs. Managing to build one's own house was still a higher priority than any concern for being stylistically correct. The overall low quality of houses and the lack of an organised building industry in Perth was in marked contrast to the situation in Sydney and Melbourne, where the gold discoveries of the 1850s had begun an era of economic growth culminating in the building boom of the 1880s.

However, while the quality of the housing stock in Perth was not significant and was unlikely to have an influence on future development, the suburban nature of the townscape was to be influential. From first settlement the ready availability of residential lots, combined with Stirling's town planning and building regulations, ensured the development of a pattern of detached houses on individual lots in Perth. Unlike Sydney, Melbourne or British cities, there was no local tradition of building terrace or row housing, despite there being a few examples in

[118] The separation of public and private rooms, and adults from children is quite evident in the plan and the householders and domestic servants are provided with separate circulation paths, including front and back staircases.
Perth and Fremantle. This pattern of suburban housing in Perth was further reinforced by the construction of the Fremantle-Perth-Guildford railway and the subdivision of the Perth Commonage in the 1880s.

With slow, but steady, growth in the colony throughout the 1880s economic prospects in Perth looked more encouraging than ever before. The gold strikes in the north-west of the colony in 1885 served to stimulate the economy, even creating a minor speculative land boom in Perth. An increasing concern for the health of the community prompted health officials and church leaders to lobby their politicians for the introduction of building regulations, but the lack of an organised building industry limited the range of readily available building materials and the standard of building construction. However, even if the quality of housing in Perth was still not relatively high in comparison with new housing in other Australian cities, and Britain, at least the opportunity to purchase a house was still a major attraction to potential immigrants, as emphasised by P. Mennell in his laudatory book, *The Coming Colony* (1892); "Even now working men can purchase allotments of nearly a quarter of an acre [1,012 square metres], little more than 1.6 kilometres from the city for £50, on which they can erect a decent brick cottage for, say £150, and thus by a payment of 9s 11d per week to the Perth Building Society, become in eight years possessors of excellent freehold residences." This was something to which few members of the lower classes in Britain, or Europe, could aspire.

The Swan River Settlement had been established with a promise to immigrants of social mobility and financial reward through the acquisition of large landholdings and in the late 1880s it still offered migrants the same promise, but on a lesser scale. While an affordable suburban home on a 1,012 square metre lot might be a more humble aspiration than the acquisition of a country estate it was promoted by leaders of Perth society as being no less praiseworthy.

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119 P. Mennell, *The Coming Colony*, p.97, notes that John Forrest invested £20,000 in Hay Street retail property for the Earl of Carnarvon.
120 P. Mennell, *The Coming Colony*, p.54.
2. GOLD-RUSH (1890-1897)

2.0 Introduction

The discovery of gold in the Kimberley region of Western Australia in 1885 introduced a period of momentous economic development in Western Australia, and for Perth in particular, coinciding, as it did, with an economic downturn in the eastern states. In the 1880s visitors regarded Perth as being little more than a small market town. British writer Anthony Trollope, in 1873, could at best describe Perth as "a very pretty town."1 The *Morning Herald*, in a 1903 supplement celebrating the city's prosperity, rather harshly wrote; "Even so late as the early nineties the West Australian metropolis was still characterised by much of the ruggedness of a primitive settlement", but over the two decades following the discovery of gold Perth was almost rebuilt and transformed into a thriving commercial city.2 May Vivienne, who remembered Perth from an earlier visit as "a very sleepy little town", on her return in 1900 described it as being "a handsome and prosperous city, with noble buildings on all sides, electric light, tramcars, beautiful parks around it and yachts dancing on the broad waters of the Swan Rivers."3 This transformation was not an easy process and the period was characterised by the chaos and uncertainty created by a mining boom.

The "boom" conditions generated by the discovery of gold had an enormous impact on all aspects of life in Western Australia. Recent American research into modern boomtown communities categorises a place as being a "boomtown" if the annual population increase is more than 15%, but it also noted that once annual population increases reach 10% then severe "institutional malfunction" is likely to occur.4 Between 1890 and 1898 Perth experienced a compounded annual increase of approximately 16% and suffered the economic, physical, political and social distress associated with boom conditions.

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2 "Prosperous Perth, the Metropolis of the Golden West", supplement in *Morning Herald*, 14 February 1903.
3 M. Vivienne, *Travels in Western Australia*, p.29.
A community experiencing typical boom conditions faces many problems. The most obvious problem is the inability to adequately house the increased population. The scarcity of available housing results in dramatic increases in rent and cost of houses and creates a need for temporary shelter. The increases in the cost of housing, and the decreased standard of living affects the existing residents and immigrants alike, but the residents will naturally blame the arrival of the migrants for their plight and hence a source of friction between the two groups is created. As many of the newcomers arrive from larger, more sophisticated, urban environments they usually have different values and higher expectations from the locals and this is further cause for social friction. Long time residents usually establish a relatively homogeneous community, based on shared values and the necessity to live in some degree of harmony, therefore they tend to favour maintaining the status quo, whereas newcomers are likely to agitate for change and this provokes political conflict. Increased numbers of users place strains on community services and public infrastructure, but the local government, unable to predict demand and with limited finance, has difficulty in meeting these needs. The overall rapid increase in the demands of the population outstrips supply and this produces an equally rapid rise in the cost of living. All these changes are likely causes of disquiet and conflict between the existing community and the immigrant population.

With immigration figures peaking in 1896, Perth experienced "boom" conditions throughout the nineties and its citizens faced all of the above issues. This chapter looks at the economic, political and social changes that took place in Perth during the "boom" years (1890-1897) of the gold-rush and traces how these changes affected the city's housing.

2.1 Population Growth

What began as a trickle of prospectors in Western Australia's north-west goldfields, in the Kimberley (1885), Pilbara (1888) and Murchison (1890) regions, grew to a flood of hopeful "goldboomers" following the discovery of the Coolgardie-Kalgoorlie goldfields (1892-93). In 1885 the state's
population was 35,186, but as a result of the north-west gold discoveries it had jumped to 46,290 by 1890, and following the establishment of the Coolgardie-Kalgoorlie goldfields it had soared to 161,694 by 1897. The population continued to expand, but at a slower rate, to 179,708 in 1900. This fivefold increase in population over just fifteen years presented the inexperienced state government with a massive array of problems to resolve and these problems were not related solely to the goldfields. For although the centre of economic activity and a large percentage of the immigrant population was located in the goldfields, Perth experienced an equally rapid growth. In 1890 the city had a population of 8,447 persons, but by 1898 the population had risen to 26,600, while the 1901 census figures show the overall population of metropolitan Perth, or at least the area within a 16 kilometre radius of the post office, had risen to 66,823. It was a growth rate for which the city was not prepared and the "boom" years were marked by both state and local government trying to keep abreast of the problems associated with this rapid increase in population.

Unlike previous gold-rushes, in the USA and Australia, the immigrant mining population consisted principally of young, single, freewheeling, prospectors, who moved from one mining town to another; from California to Colorado, from Bathurst to Bendigo. However, with an economic recession in the eastern states of Australia, many of the immigrants attracted to Western Australia were wage earners, artisans and white collar workers, from predominantly urban backgrounds, with families to support in the eastern states. While thousands of men came to Western Australia to prospect and mine, hoping to strike it lucky, many others sought employment in the secondary industries and services that are necessary to support the efficient operation of large goldfields; the supply of mining equipment, financial services, food, clothing and

6 WA Statistical Register, (1900). The peak population increase occurred in 1896, with an additional 55,215 people resident in the state.
7 These figures are taken from the WA Yearbook, (1890 and 1898) and the Yearbook of WA, (1900-01), p.8, respectively. There is a general problem with comparing various population statistics, because the boundaries of survey areas often vary, but these figures provide an impression of the scale of population growth.
8 The high level of family financial support in the eastern states was reflected in the amount of money remitted through the postal services; £411,733 in 1896 and £791,000 in 1897. PD WA 12 1898 632.
Included in this group was a large number of architects and builders, who had previously worked in Victoria, and particularly Melbourne, during the building boom of the eighties. All these people, coming from relatively sophisticated urban backgrounds, brought to the state a highly developed set of urban values and expectations, which the state struggled to satisfy. This was to be a source of much friction between locals and "T'Othersiders", as they were discursively referred to by the locals, but the sheer numbers of the "T'Othersiders" meant their expectations and values would ultimately have a major impact on Western Australia, particularly in matters related to housing.

Amongst the immigrant population was a high percentage of people from the eastern states, particularly Victoria. The census figures of 1901, a date well after the population turnover associated with the gold boom had peaked and therefore likely to reflect a more stable population, indicate that of the state's total population of 184,124, there were 126,952 (69%) persons who had been born in Australia, but only 55,663 (29%) had been born in Western Australia, while 39,491 (21%) had been born in Victoria.10 This was in marked contrast to the figures from the 1891 census, in which the total population was 49,782, with 27,825 (56%) born in Western Australia, 9,634 (19%) in England, 1,036 (2%) in Victoria and just 555 (1%) in New South Wales.

The population figures for Perth serve to reinforce the impact of the immigrants on the composition of the overall population in Western Australia; in the 1901 national census, Perth Metropolitan Division had a total population of 67,431, of whom 18,999 (28%) were listed as having been born in Western Australia, while 27,850 (41%) were from the other Australian states, including 14,791 persons (22%) from Victoria), with a further 16,637 (24%) from Great Britain.11 That 22% of the Perth's

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9 In 1896 Melbourne retailers Foy and Gibson opened a store in Perth. Due to the housing shortage their six Victorian departmental managers had to share one bedroom at the Great Western Hotel, Northbridge. S. W. Davies, Foy's Saga, p.54.

10 Western Australian Yearbook, (1900-03), pp.16-17.

11 While the number of immigrants from the British Isles might appear to be a significant body, it was made up of settlers from England, Scotland, Wales and Ireland and was therefore far from being an homogeneous group.
metropolitan population was from Victoria was not surprising given the economic circumstances in Victoria, but that 37% of all Victorian immigrants chose to seek employment in Perth, rather than on the goldfields is indicative of their strong urban background. The Victorians came to Western Australia for a number of reasons; some to seek their fortune in the goldfields, others to establish a new market for their trade or profession, some to escape bankruptcy, many simply to gain useful employment in a booming economy. Their presence did not go unnoticed. In early 1896 the West Australian reported that of the 29,523 immigrants who arrived in Western Australia in 1895 19,595 (66%) were from Victoria.12 This was an unusually high proportion of Victorian immigrants for any one year, but the flow continued over the next few years at a level sufficient for the newspapers to make specific references to it.13 In 1897 the Western Mail reported that Victoria's economy was still in a depressed state, "real estate is almost unsaleable", and therefore it was expected that the Victorian exodus to Western Australia would continue.14

It happened that the gold discoveries in Western Australia coincided with the collapse of the building boom in the eastern states and the onset of an economic depression. The withdrawal of British investment capital precipitated the collapse of speculative companies, a widespread fall in profits, decreased wages and severe unemployment, which was to cast a shadow over the economies of the eastern states for the next twenty years.15 Between 1870 and 1890 the eastern states of Australia had enjoyed twenty years of continuous economic growth and prosperity. It was a period in which the material expectations of workers, both skilled and unskilled, were raised to great heights and therefore the psychological impact of the economic crash was profound. The people of Victoria, especially those in Melbourne, were particularly hard hit. "Marvellous Melbourne" had been the principal beneficiary of this economic boom; it had become one of the great nineteenth century

12 Western Mail, 31 January 1896, p.17; of the 19,595 Victorian immigrants there were 13,246 males, 2,802 females and 1,457 children, which indicates an extremely high proportion of males workers without family in WA.
13 Western Mail, 30 October 1896, p.9 and 6 November 1896, p.17.
14 Western Mail, 8 January 1897, p.24.
Victorian cities, but after 1888 the building boom faltered, in 1891-92 banks and building societies foundered and on 1 May 1893 all the banks were forced to temporarily close their doors.\textsuperscript{16} The Victorian economy collapsed, unemployment soared and many small investors, businessmen and home owners faced financial ruin; their hopes and expectations of attaining a comfortable suburban lifestyle were devastated.\textsuperscript{17} In 1893 the gold mining boom in Western Australia offered the Victorians one of the few hopes of salvaging their dire situation.

2.2 Domestic Values

The first group of settlers had set the imprint of their domestic values on housing in Perth, and so too the next great wave of immigrants was to leave its mark. For the former group it was a case of starting from scratch in virgin bushland and working within a British based late-Georgian value system, but for the latter group it meant developing within late-Victorian values to rebuild and expand the colonial town into the image of a financially successful provincial city.\textsuperscript{18}

Between 1890 and 1910 the shift in the balance of Western Australia's population was phenomenal. By 1911, only 5% of the population of Perth and its suburbs had lived in the colony prior to 1884, therefore only a very small minority of the population was personally tied to and shaped by the past history of the Swan River settlement.\textsuperscript{19} The majority of the population came to Perth from larger urban communities and had witnessed, if not experienced, both the sophisticated lifestyle as well as the overcrowded squalor of large cities in Britain and the eastern states. In Perth they introduced a set of values which would engender the lifestyle they wished to achieve and prohibit that which they sought to avoid.\textsuperscript{20}

\begin{itemize}
  \item \textsuperscript{16} A. Briggs, \textit{Victorian Cities}, pp.277-310.
  \item \textsuperscript{17} See G. Davison, \textit{The Rise and Fall of Marvellous Melbourne}, for details.
  \item \textsuperscript{18} A. D. King suggests that in the latter part of the nineteenth century Australians were part of a British based international capitalist urban culture, attempting "to create provincial England in the Antipodes." \textit{The Bungalow}, p.226.
  \item \textsuperscript{19} C. T. Stannage, \textit{People of Perth}, p.193.
  \item \textsuperscript{20} S. Glynn, \textit{Urbanisation in Australian History}, pp.56-57.
\end{itemize}
By the late 1880s Melbourne and Sydney were, by world standards, large modern cities. Supported by a continuous flow of people, capital, ideas and techniques from Britain, their inhabitants had created a colonial version of provincial England.\textsuperscript{21} Melbourne, with a population of more than 400,000, was recognised as one of the great nineteenth century Victorian cities.\textsuperscript{22} In 1885, after a visit to Melbourne, British historian J. A. Froude, reported that "it was English life all over again."\textsuperscript{23} In \textit{Victorian Cities}, Briggs affirms that Melbourne, in the 1880s, was culturally similar to any comparable provincial city in Britain.\textsuperscript{24} A similar process of development was to occur in Perth in the 1890-1910 period, except this time the flow of people and ideas was not primarily from Britain, but from the eastern states of Australia, in particular Victoria. Briggs, Davison and several other historians have focussed their attentions on the city the locals proudly referred to as "marvellous Melbourne."\textsuperscript{25} Fuelled by British investment capital seeking high interest rates and the possibility of making large speculative gains in the property market, Melbourne experienced a building boom throughout the 1880s. But there was more to "marvellous Melbourne" than just urban growth and new buildings. The economic boom affected all aspects of life; population growth, employment opportunities, disposable income, political and social leadership and taste and style in the arts. The title "marvellous Melbourne" was more than the glib phrase of a visiting journalist, it reflected of the intense pride which the citizens of Melbourne felt for their rapidly expanding city. If "progress", a valued aspiration in nineteenth century industrial countries, was measured by new buildings then the rebuilding of the city centre and the sprawling new suburbs of Melbourne were proof positive for the locals that their city was indeed a most progressive city.

\textsuperscript{21} S. Glynn, \textit{Urbanisation in Australian History}, p.79.
\textsuperscript{22} This focus on Melbourne is prompted by the large Victorian immigrant population. Urban and suburban development in Sydney was similarly advanced, although it did not occur in such a spectacular manner, nor manifest its success in quite the same flash architectural fashion. Conversely the effects of the financial collapse and subsequent economic recession were not as pronounced in Sydney as in Melbourne, which might partially explain why the number of New South Wales immigrants in Western Australia was 50% less than the Victorians.
\textsuperscript{23} A. Briggs, \textit{Victorian Cities}, p.300.
\textsuperscript{24} A. Briggs, \textit{Victorian Cities}, p.295.
\textsuperscript{25} The term "marvellous Melbourne" was coined by visiting British journalist G. A. Sala in the 1880s. A. Briggs, \textit{Victorian Cities}, p. 278.
The life style available to the inhabitants of Melbourne in the 1880s was quite unlike that experienced by their contemporaries in Perth. In 1888, at the height of the building boom, the people of Melbourne enjoyed the benefits of "electric light, telephones, new railways, cable trams, lavish new shops complete with hydraulic lifts, busy highly decorated arcades, theatres, hotels and restaurants and dozens of opulent new mansions in its fashionable suburbs." The decorative and stylistic diversity of Melbourne's housing, whether mansion or small cottage was legendary. "Mandeville Hall" in Toorak, was transformed by architect Charles Webb, for Joseph Clarke, at a reputed cost of £20,000. "Ontario" (now known as "Labassa"), was built for A. W. Robertson, a wealthy miner, regardless of cost. "Illawara" and "Coonac" in Toorak, "Raheen" in Kew and "Goodrest" in South Yarra were but a few of the more extravagant mansions to be built during the boom period, at a cost quite unlike anything expended in Perth, even at the height of its gold boom. But the wealth of Melbourne was evident in much more than the mansions of a few tycoons, rather its real expression was to be found in Melbourne's rapidly expanded suburban housing. Twopeny suggested "if a visitor really wishes to form an idea of the wealth concentrated in Melbourne, he can do no better than spend a week walking around the suburbs and noting the thousands of large roomy houses and well kept gardens." Although Twopeny was not overly impressed with the quality of Melbourne's domestic architecture, other writers have been effusive in their descriptions of its rich variety and imposing styles. This architectural richness is evident even in small speculative housing, particularly the overly decorated houses in Carlton and Parkville, designed by architects such as Charles Connop and Norman Hitchcock. (Fig. 2.1)

More important than the richness of architectural styles was the high level of home ownership in the sprawling new suburbs. This suburban growth was led by the middle income group, which was numerically increasing, attuned to prosperity and the increasing opportunities for

27 See M. Cannon, The Land Boomers, and S. Forge, Victorian Splendour, for details of Melbourne's extravagant boom architecture.
28 R. E. N. Twopeny, Town life in Australia, p.16.
Fig. 2.1
Houses, Wilson Street, North Carlton. An example of Italianate houses, c. 1888, in an older, inner suburb, of Melbourne. The houses were built close to the street, on narrow lots.

Fig. 2.2
Illustration of a Residence, Camberwell. Designed by Alfred Dunn in 1891, this suburban residence of "superior character" cost £2,500 to build.
(Source: ABCN, 9 May 1891)
social mobility. This pursuit of a suburban lifestyle was well established in English speaking nations, but it was more widely attainable in Melbourne, where, as Twopeny reported, whole townships were being financed entirely by building societies and in which every inhabitant, in the course of a few years, could expect to become a proprietor. This is not to suggest that all the residents of Melbourne, or Sydney, had easy, or even ready, access to an increasingly sophisticated suburban lifestyle: the majority had to settle for aspiration rather than achievement, but they did reap the benefits of a standard of services, utilities and specialised building industry unknown in Perth prior to the 1890s.

The citizens of Melbourne, in the 1880s, eagerly pursued the ideal of the "Home, sweet Home." However, suburban respectability was not an easy goal to attain for those not professionally employed; it required a spacious single family dwelling, a neat garden and the security of home ownership and income to support the requisite lifestyle. But despite the high personal and material costs involved, the rapid growth of Melbourne suburbs and the relatively high level of home ownership indicate the ideal of suburban respectability received a broad degree of popular approval. Naturally, land developers, real estate agents, builders, building societies and transport industries, who stood to gain financially, promoted this ideal, however its most prominent supporters were political and religious leaders, who identified home ownership as being indicative of duty, industry, responsibility, sobriety and thrift, virtues they regarded as being synonymous with good citizenship. So while John

30 S. Glynn, Urbanisation in Australian History, p.77.
32 Recent research by S. Fitzgerald, Rising Damp, Sydney 1870-1890, indicates that while a large number of people were able to move out to a home of their own in the new suburbs and enjoy some of the benefits of the boom, there was a sizeable proportion of the population in Melbourne and Sydney finding it increasingly difficult to participate in and benefit from the economic growth of this period.
33 G. Davison, The Rise and Fall of Marvellous Melbourne, p.140. "Home, sweet Home" had been the theme song of Melbourne's 1880 International Exhibition.
34 A suburban house "of spacious character" in Camberwell, as illustrated in Fig.2.2 cost £2,500 to build. ABCN, 6 February 1892, p.116.
35 G. Davison, The Rise and Fall of Marvellous Melbourne, p.181. Research estimates that the level of Melbourne's home ownership in 1891, while lower than claimed at the time, was approximately 41%, a higher figure than in Sydney and comparable with cities having populations over 100,000 people in the USA.
Ruskin, the moral voice of authority in Victorian society solemnly intoned that "our God is a household God, as well as a heavenly God" and therefore "it is one of those moral duties .... to build our dwellings with care, and patience and fondness and diligent completion", Twopeny and others persuaded their readers how easily attainable and financially rewarding it was.\(^{36}\) It should be mentioned that Twopeny was more than just an "interested bystander" in Melbourne, having earned, in just six weeks, a substantial profit of around £900 from subdividing 3.24 hectares and selling it in 506 square metre residential lots.\(^{37}\) This was a typical tale of the speculative profits to be made during the property boom in Melbourne and few who could afford to participate in the boom missed an opportunity to reap the high financial rewards.

In the late 1880s, in the new Melbourne suburbs the preferred housing model was the single storey detached family dwelling; the villa.\(^{38}\) This stood in marked contrast to the popular, contemporary, two storey semi-detached, or terraced, English house.\(^{39}\) It was a point upon which many overseas visitors commented; Twopeny noted, "terraces and attached houses are universally disliked and almost every class of suburban house is detached and stands in its own garden."\(^{40}\) The obvious reasons for this preference for single storey detached housing were the ready availability of inexpensive land relatively close to the work place, and a desire to avoid the crowded housing conditions experienced in British industrial cities, although there was comparatively little industry in Australian cities at the time. Much of the attraction of life for all classes of people in the Australian states was the opportunity and determination to avoid living in conditions similar to those experienced in Britain.

By the early 1890s a detached house set in a pretty garden in new suburbs like Camberwell, Hawthorn, and Malvern was clearly the


\(^{38}\) Semi-detached and terraced housing continued to be built in the old inner city areas, prompted by the high cost and shortage of available residential land.

\(^{39}\) S. Muthesius, *The English Terraced House*.

preferred housing model of Melbourne's middle class. (Fig.2.2) A comparison of subdivision maps of the old and new suburbs reflect not only a shift in the relationship between house and residential lots, but also in their social distinction. In the new suburban estates the building lots are wider, the houses are set further back from the road and their neighbours and, overall, the setting of the house in the landscape is more spacious. (Figs.2.3 & 2.4) The new suburban housing, as illustrated in the architectural journals, was an architectural representation of the middle class ideal of a leisured suburban life style in Melbourne. It was socially important to observe the established codes of social decorum, to maintain appearances and show consideration for each other's privacy; all of which required space. Rooms were designed for single, specific, functions and the provision of numerous rooms had a strong bearing on potential lifestyles. Increasingly in the 1890s, architects designed houses in which the complexity of the plan had the benefit of producing a picturesque external effect. It is difficult to gauge to what degree the desire to affect a picturesque exterior determined the complexity of the plan, or whether it was that complex internal spatial arrangements lent themselves to picturesque treatment of elevations, but British architectural theorist J. J. Stevenson had certainly favoured the use of complex planning because it so readily lent itself to "architectural effect, both internal and external."41 This viewpoint was echoed by his Australian adherents in the eastern states.42 For all classes, houses were formidable symbols of economic status and social standing, therefore the external appearance of the house was most important. For the poorer artisan the emphasis on a generous provision of rooms was almost unobtainable, the financial limitations were obvious, but often an impressive external image was more easily achieved. What these houses lacked in size they made up in lavish external detail, while the planning still followed the traditional layout. (Figs.2.5 & 2.6)

When the immigrants arrived in Perth they expected and demanded housing and services similar to those which they had previously experienced. It is important to recognise that the conflict which arose between the locals and "T'Othersiders" was not so much about the goal of

Figs. 2.3 & 2.4
Residential subdivisions in Fitzroy and Camberwell, Melbourne. The former is tight and unco-ordinated in layout, the latter spacious and co-ordinated.
(Source: Planning and Environment Ministry, Victoria)
Illustrations of suburban houses, Melbourne, built in the building boom of the 1880s.

(Source: G. Davison, The Rise and Fall of Marvellous Melbourne)
suitable suburban housing as about the speed and cost at which it might be achieved. And it could be achieved. The many Victorian architects and builders, who followed the gold prospectors to the mining towns and Perth, were capable of providing the community with a new standard of building and the West Australian goldmines attracted the British capital which would make it financially possible to build. However, a suburban lifestyle also relied heavily on public infrastructure provided by government.

2.3 Government Initiatives

The gold-rush in Western Australia placed great pressures on living conditions in the state. The presence, both temporary and long term, of so many people in the state placed existing public services under great strain, a situation which was compounded by the demands of the immigrants for additional services, demands which the government was initially both incapable of handling and reluctant to meet. Western Australia gained its independence from British colonial rule in 1890 and the inexperienced ministry was still grappling with the problems associated with the functions of responsible government when the gold-rush began. John Forrest's government was committed foremost to servicing the needs of his traditional constituents, the rural community; providing the rural hinterland with railways, communications, roads, schools and hospitals, etc. The government was ill-prepared to deal with the state's rapid increase in population in Perth and the mining towns and the demands for provision of housing, food, power, sanitation, transportation and clean water, of a standard to which the state was unaccustomed. These rival claims on government resources were to be the source of much friction between the locals and the "T'Othersiders".

This rivalry was foreshadowed in the West Australian's 1895 New Year editorial, which noted "the old contented acquiescence, a lot which was endured because it was thought to be incurable, is fast dying out. With new faces come new ideas and more extended wants. Much has yet to be done." But the locals who, prior to the gold-rush, had struggled for

43 West Australian, 1 January 1895, p.4.
many years to establish the colony were not going to easily give way to
the demands of the newcomers. John Forrest, under political pressure to
provide all manner of new public services and utilities, complained of
"people who have been brought up with extravagant ideas."44 Even that
bastion of the colonial establishment, the Weld Club, found itself under
threat when in one year ten new members from Kalgoorlie joined the club
and "formed a block with progressive ideas much in advance of those of
the conservative minded committee."45 "T'Othersiders" saw the situation
differently; they were converting Western Australia's "wastelands into
fertile pastures and glebes and its towns and villages into cities", while
the "slow, stupid, dull, conservative" locals had missed the opportunity.46
This opinion was reinforced by a Coolgardie miner, who derisively wrote;
"You missed a glimpse of the yellow metal which has made you and yours
all you ever will be, and it remained for the hated "T'Othersider" to raise
your country out of penury, poverty and the benighted ignorance in which
it was steeped, and replenish your perennially depleted coffers."47 This
criticism might well be true, but the government found itself in
extraordinary difficulties, as a result of the booming conditions. Given
the circumstances, were the demands of the "T'Othersiders" reasonable?
Many locals thought not; "it is absurd to expect in that immense expanse
the finished luxuries of the once 'marvellous', knowing that the
(government) departments have been overtaken and overwhelmed by
work to which they are unaccustomed" explained "an Old One" to the
newcomers from Melbourne.48

The government's initial hesitancy to respond to these demands was
understandable. Was this just a "flash in the pan", or a real gold strike?
There was concern that the gold discoveries were superficial, a temporary
event, but as gold continued to be found this concern was replaced an
uncertainty as to how long the mining boom might be sustained.
Therefore, the locals tackled problems associated with the boom with a
degree of caution. It would be two years after the discovery of gold at

44 PD WA 4 1893 437.
45 T. S. Louch, The First Fifty Years, p.48.
46 "The Rush to Western Australia", Western Mail, 4 September 1894, p.17.
47 Open letter to Public Men, "the Knight of Bunbury", (John Forrest), Coolgardie
Miner, 20 August 1895, p.5. One of a series of letters to politicians, highlighting
the discontent of folk in the goldfields, to appear in the paper
48 Western Mail, 2 February 1895, p.11.
Kalgoorlie before the Western Mail could confidently announce "the long anticipated mining boom seems to be setting in in real earnest." Readers were reassured; "that permanent prosperity will follow the period of exceptional excitation plainly in store for us need not be doubted." Two months later, the West Australian forewarned its readers of the need "to catch the golden moment as it flies and be ready for the good time which is coming." Western Australia, it was argued, had a bright economic future now that gold mining was a long term prospect.

As a leading member of the colonial gentry, the Premier, Sir John Forrest, represented the traditional interests of the rural land owning population and his government’s initial response to the increasing population was to pass The Homestead Act of 1893. The intention of this legislation was to make farming land readily available to the new arrivals and as the Premier said, "by this means we shall be able to raise up a class of people owning their own land and we shall thus fasten them to the country and the soil." It was a continuation of the original concept of rural settlement in Western Australia, now reinforced nationally by the emergence of "back to the land" movements. But not all politicians agreed with Forrest. L. V. DeHamel, the member for Albany, voiced his fears for "the serious results that may happen if we have a large influx of paupers into this colony." Like many others DeHamel was concerned that there was already "a superabundance of labourers" in Perth and any policies encouraging migrants to settle in Western Australia would just exacerbate conditions in Perth and the larger towns. Forrest and his supporters argued that DeHamel was being alarmist and parochial, but it is likely many of the local population shared DeHamel’s concern. DeHamel and his supporters had good reason for concern; this new generation of urban based immigrants was generally disinclined to take up holdings of rural land.

49 Western Mail, 20 October 1894, p.17.
50 "The future of Western Australia", Western Mail, 1 January 1895, p.17.
51 John Forrest, addressing his Bunbury constituents, Western Mail, 19 March 1897, p.12.
52 G. Greenwood, Australia, a Social and Political History, p.172. This movement was supported by tracts such as the Rev. Horace Tucker’s The New Arcadia (1894), which promoted the romantic vision of settlers tilling the soil while in silent communion with nature.
53 PD WA 5 1893 907.
euphoria of the gold-rush faded the majority of prospectors either returned to the eastern states, or gravitated to urban centres and as a consequence, Perth was to experience a process of rapid urbanisation.

Parliamentary debate in Western Australia, throughout the 1890s, illustrates the continuing paternal attitude of the prominent colonial "six families", as they tried to politically keep Western Australia in West Australian hands\textsuperscript{54}, but the 1894 elections indicate a gradual shift of political power away from rural landowners and the 1897 elections result was evidence of the swing in favour of the new arrivals, the professionals and traders, at the expense of the older landed colonists\textsuperscript{55}. After 1897 political debates took the form of an established land based colonial government opposed by a recently arrived urban based opposition.\textsuperscript{56} Politicians gradually recognised that the demands of the "T'Othersiders" had to be addressed. Alexander Forrest, the Premier's brother and Mayor of Perth, in supporting the 1897 amendments to the \textit{Municipal Institutions Act}, suggested that miners, having struck it rich in the goldfields, would move back to the eastern colonies if local councils would not improve housing conditions and public amenities in Perth. Forrest claimed the miners "objected that the sanitary arrangements, the roads, and everything connected with the place, were very bad". He feared that within a few days steaming to the eastern states they could "have every comfort and convenience."\textsuperscript{57} Therefore, if the state government wanted the new immigrants to settle in Perth then local councils would have to provide the necessary improvements in living standards.

A society which aspires to a suburban lifestyle of middle-class comfort places tremendous pressure on governments to provide the necessary

\textsuperscript{54} The "six families" included the Burt, Leake, Lefroy, Lee-Steere, Shenton and Stone families. In the 1890 elections, despite a population of 46,290, there were only 5,843 voters. \textit{WA Yearbook} 1893, p.49.

\textsuperscript{55} In the 1897 elections 9,016 of the 17,114 persons on the electoral roll voted. \textit{WA Yearbook} (1897), p.114.

\textsuperscript{56} However, not until the elections of 1901 was it clear that the ancient West Australians had lost control of the legislature. C. T. Stannage, "Composition of Western Australian Parliament, 1890-1911", \textit{University Studies in History UWA}, Vol.IV, no.4, 1966, pp.5-11.

\textsuperscript{57} PD WA 12 1897 999.
services to make it possible. This was certainly true of Perth residents as they strove to achieve their suburban goals. In 1896, candidates for the newly established Leederville Council collectively promised to provide the voters with the infrastructure their suburb presently lacked; a railway siding to provide easy access by public transport to the city, roadworks, sanitation removal, water and gas supplies under the control of ratepayers and street lighting. The provision of this range of services was beyond the financial capacity of a fledgling local council and it was obvious that Leederville and all other new local councils and road boards would have to petition the state government for financial assistance.

Alexander Forrest was well aware of the problems faced by local government. As well as representing the rural electorate of West Kimberley in the state parliament, he was Mayor of Perth and as such knew the city council was ill-prepared to service the city's enormous influx in population. The problem was not a shortage of housing land, but that the infrastructure of services, which now we take for granted, was not in place. "It cannot be said, for example, that Perth is at present the most agreeable of residences, or a town which we can hope to attract dwellers of itself as do all the other capital cities of Australia", wrote the editor of the Western Mail, recommending that the city council be allowed to raise funds to build up its infrastructure. The construction and maintenance of roads and footpaths, the regulation and inspection of new construction and the collection and disposal of sewerage and other wastes had been a difficult task for the council when the city had a population of only 5,044 persons, 80 kilometres of streets and 34 kilometres of macadamized roads, but now the local government's infrastructure was quite inadequate to meet the demands of the booming population. The city faced overwhelming problems of insufficient accommodation, tent cities, "jerry-building" practices and substandard housing, which in turn produced urban squalor and abetted health epidemics.

58 Western Mail, 8 May 1896, p.14.
59 Eventually the effective provision of water, gas, electricity and public transport throughout the metropolitan area would require the coordination and control of a single authority.
60 Western Mail, 8 September 1894, p.23.
61 WA Yearbook (1888), p.66.
Henry Lawson visited Perth on his honeymoon in 1896 and wrote an account of life in the East Perth tent camp, describing the crowded and insanitary conditions under which people had to live.\textsuperscript{62} The scene was not too dissimilar to that which "Visitor" described in a letter to the \textit{Western Mail} in 1895; "You have in Perth lodging houses that are an abomination and where men, women and children huddle together like rabbits in a warren". He expressed concern that houses in East Perth "are being run up anyhow, anywhere, without the slightest regard to situation, accommodation, ventilation or sanitation." It reminded him of Melbourne, he wrote, "when it was in its land boom days and the symptoms are very akin with the building trade in Perth just now."\textsuperscript{63} Irate ratepayers were not hesitant in letting the city council know of their feelings. At the 1896 half yearly meeting a ratepayer highlighted the short comings of the city; "where the people are nevertheless compelled to pay rates, where there is not a mile [1.6 kilometres] of properly constructed road, in the aggregate, where there are no parks or gardens, no drainage, no tramways, most indifferent lighting, no municipal library, no suitable baths, no municipal markets", in full all the things a ratepayer might expect of a large urbane city.\textsuperscript{64}

The Perth City Council recognised its inability to deal with the situation and ordered an investigation into the structure of the council in August, 1896. The report concluded that the Town Clerk was inexperienced and his staff were inefficient. The council required a gentleman "fully experienced in Municipal Law, usages and requirements, experienced in office management, capable of leading and directing various offices". The problems the council faced included roads that could not handle the wear and tear of the increased traffic, a future drain on funds to repair existing roads and insufficient funds to build new roads. The report also recommended that two managers be appointed to separately handle the Sanitary Scavenging (collection) and Health offices, two tasks of importance in a rapidly growing city.\textsuperscript{65}

\textsuperscript{63} \textit{Western Mail}, 19 July 1895, p.10.
\textsuperscript{64} \textit{Western Mail}, 15 May 1896, p.22.
\textsuperscript{65} Report of the Special Committee, appointed to inquire into the organisation and operation of the Council's Officials, PCC, 1896.
Whereas London was previously the metropolitan model to which the people of Perth looked for guidance and inspiration, the shift in the composition of the population and increased transcontinental communications in the 1890s resulted in "marvellous Melbourne" becoming the more immediate metropolitan model for urban development. Increasingly, Melbourne was preferred as the yardstick for how things should be done; statements like "we want in this colony all the powers given to the health authorities in Victoria", "in Victoria no (earth or water) closet can be built within fifty feet [15.25 metres] of the house", "the imposition of Victorian laws would not prevent building, but would ensure that houses were infinitely superior to those being built at present" were typical of public references to Melbourne. It was little wonder that at times the locals were somewhat jaded at being told how wonderful Melbourne was, or at least had been before the bust. Implicit in this bickering was a recognition by the locals of how far behind Melbourne and Sydney their living standards were, but they didn't need to be constantly reminded of it.

2.4 Building Regulations.

Before the influx of immigrants in the mid-1890s Perth's water and sanitation services were inadequate, but with the increased population these services were hopelessly inadequate and posed a threat to public health. Although some households had water tanks, most relied on private or communal wells and bores for their water supply, but it was a risky source. Much of the area east and north of the original Perth town site was originally swampland, which was later drained and used for market gardens, but under the pressures of the gold boom the land was soon bought, subdivided and resold as residential building lots. High water tables resulted in damp problems in the houses and health problems associated with the water supply. Underground contamination of drinking water by the seepage of waste water from cesspits was a continual cause of disease in the community. A limited piped water supply was introduced in 1891, but the Perth Water Works Company, a privately owned utility, was plagued with problems; the water supply was erratic, the quality of the water varied and customers complained.

66 West Australian, 13 September 1895, p.9.
As a result the water company was in constant conflict with the Perth City Council, which tried to purchase the company as a means to guarantee a supply of fresh water to ratepayers. Eventually, in 1896, the Council persuaded the government to buy the waterworks and assume responsibility for the city's water supply. But despite the government's involvement, in 1897 only 2,750 of the city's 30,000 residents were supplied piped water by this service. Similar problems existed with the disposal of waste water and sewerage. The city had no system of waste water drains and most sewerage was dumped into cesspits. Prospective migrants to Western Australia were warned that there was "ample room for still further improvement in the design and sanitation of the houses, to which little attention from various causes, has hitherto been paid." With so many people living in crowded conditions with poor sanitary conditions there were frequent epidemics of cholera, typhus, enteritis and fever. The number of cases and deaths from typhoid fever in Perth is indicative of how serious and widespread these epidemics were. (Table 2.1) The health statistics for the rest of the state were even more alarming. Perth City Council, concerned with the poor sanitary conditions and the increase in health problems in the city, in May 1895 sent a deputation to John Forrest, asking that legislation to control the situation be passed. A report by the Council's Health Officer, in July, confirmed these concerns; the spread of typhus and the high death rate, in the city, was due to a lack of proper and efficient drainage, houses built on damp and unsuitable sites, overcrowding and poor ventilation in houses and the lack of open spaces in the city. The report cited one example where what had been originally stables had been divided into three dwellings of four rooms each. Preventative action needed to be taken and again the Council requested the Government to grant it more regulatory powers.

A number of politicians were reluctant to take legislative action. Many of them were substantial property owners and knew that, like themselves,

67 WA Statutes, 1896, 60 Vic. No.19.
68 A. F. Calvert, Western Australia (1894), p.209.
69 West Australian, "Health Officer's Report", 13 July 1895, p.7.
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**Table 2.1 The Impact of Typhoid Fever in Western Australia**

(Source: WA Statistical Register. These figures highlight the correlation between increases in annual immigration figures and the overcrowded living conditions in Perth.)

other landlords would be reluctant to shoulder new legal responsibilities and the expense of upgraded services and building improvements. It was the familiar struggle between those politicians protecting the health of the general public and those protecting the economic interests of ratepayers. However, in late 1895, prompted by health officials, civic leaders and the likes of "Harry Faithful", the government introduced a number of bills and amendments, including the Municipal Institutions Act, Building Act Amendment and Public Health Act Further Amendment, affecting local government and building regulations.

Encouraging readers to apply pressure on their politicians, "Harry Faithful" wrote a series of articles in the West Australian. In "The Place We Live In" (No.1) he described the crowded housing conditions and the threat they posed for public health. In Russell Square, side by side with handsome residences, there were dilapidated buildings unfit for human habitation. One old tenement of four small rooms was occupied by twelve grown up people and a number of little children. In "old Perth" there were a row of buildings at the top end of Hutt Street, a half dozen small houses in a space less than half thought necessary for one house. "The

70 PD WA 10 1895 1199-1200.
mode of living adopted by the dozen of women and the score of children living in this place is necessarily of a character calculated to promote not only physical disease, but the lowest immorality possible to conceive" was his conclusion. In "The Place We Live In" (No.2), "Harry Faithful" turned his attention to the standard of construction in Perth. "You have them [the 'jerry-builder'] in all centres of population wherever there is a boom on in building"; an example was sixteen houses on a lot of 3,354 square metres, and two roomed houses with single leaf brick walls, ceilings 2.3 metres high and windows 0.76 metres wide, producing what he could best describe as "rabbit hutch'es." In the concluding article, (No.3), "Harry" declared "we want in this colony all the powers given to the health authorities in Victoria", to prevent the many instances of building conditions that would not be tolerated under Victorian law. The imposition of the Victorian laws would not prevent building, but would ensure that houses were "infinitely superior to those being built at present". He recommended a number of actions to be taken by Perth City Council including;

1) codification of the health and building laws
2) supervision and regulation of building plans, which had first to be approved
3) no buildings to be built on swampy or night soil depots,
4) every home to abut a street instead of an alley,
5) no overcrowding,
6) isolation of disease outbreaks,
7) condemnation of houses unfit for human habitation,
8) proper provision of drainage,
9) inspection of food supplies, and
10) appointment of inspectors to supervise all the above.

These are measures we now take for granted, but in 1895, despite the rapid uncontrolled urban growth, there was a reluctance to enact them.

71 West Australian, 24 August 1895, p.10.
72 West Australian, 31 August 1895, p.7.
73 West Australian, 11 September 1895, p.7.
The Municipal Institutions Act was originally introduced in parliament in 1893, but it was allowed to lapse. It was reintroduced in 1894 and again due to lack of support it lapsed, but the government persisted and the act was successfully reintroduced and passed in 1895. The act was designed to permit local councils to rate properties within their boundaries and use the funds to make public improvements, including the construction of roads and footpaths, the provision of adequate street lighting and the installation of street drainage, all of which now were being demanded by local residents. The act also established minimum widths for public streets and rights of way. However, the cause of heated political debate amongst the politicians appeared not be the question of whether street standards had to be set and improvements made, but rather the issue of local councils increasing the rates on their extensive holdings of property. A number of shrewd property developers, when subdividing their inner city properties, tried to circumvent the regulation governing the minimum width of streets, utilising the legal distinction between a public street, (20 metres) and a private street (6 metres). The result was that some right of ways were claimed as private roads and unacceptable, but not illegal residential subdivision continued to occur. An amendment to the Municipal Institutions Act was passed in 1897 to reduce the maximum width of rights of way to 25 links (5 metres), although F. Illingworth had argued the width should be reduced to 3.8 metres; again Melbourne was cited as the example of where Flinders Lane and Little Collins Streets had eventually changed from being scavenging lanes (R.O.Ws) to narrow streets, precisely the situation which local politicians wanted to avoid in Perth. Therefore, the government, through its legislation, aimed to prevent a repetition of the negative results of inadequate land subdivision as experienced in other cities.

Concerned with the risk of contagious diseases spreading amongst people living in overcrowded conditions, the Public Health Amendment Act aimed to control the disposal of waste water and rubbish. The existing act (1886) restricted a local council’s ability to force landowners,
Fig.2.7
Lot 75, corner of William and Aberdeen Streets, Nortbridge. Subdivided into five smaller lots in 1897, there is only a narrow Right of Way for access to Lot 5/75. Many large lots were similarly subdivided as property owners sought to profit from the huge demand for building lots.
particularly absentee landlords, to comply with council health regulations.\textsuperscript{77} Again the government faced opposition to its legislation. Contemporary perceptions of the problems associated with the disposal of waste water and refuse were such that a number of politicians discussed the stench of the wastes and the inconvenience it posed for a person walking in the streets, rather than the more serious threat to public health. The Rev. William Traylen, a strong promoter of the Bill, was dismissed as merely being a "faddist". With some politicians adopting these attitudes it is little wonder the Bill had a difficult passage through parliament, or the city suffered epidemics of fatal diseases.\textsuperscript{78}

The amendment to the \textit{Building Act (1884)} aimed to ensure that all properties in all local council areas were covered by the act, and to ensure that the original act was workable. As with a number of other bills, the Western Australian government based many of these provisions on previous legislation, in this instance the recent London \textit{Building Act of 1893}.\textsuperscript{79} The amendment so closely addressed the ten points recommended by "Harry Faithful", it creates the suspicion that "Harry" might well have been a parliamentarian. Walter James, when introducing the amendment said "it is the erection of that class of buildings ["jerry built' housing] which it is desired to prevent." His colleague, George Randell, concurred; "knowing the conditions of affairs that exist at present in Perth the provisions of the Bill are most urgently required in the interest of public health". He concluded that, "this House cannot act too promptly in remedying present evils."\textsuperscript{80} With very little debate, the Bill was passed by both houses of parliament in October. The amendments dealt with site preparation and building foundations (aiming to combat the problems of building on low swampy ground in Perth and elsewhere), the quality of building materials, methods of

\textsuperscript{77} For example, local council health officials were unable to take action against tent dwellers squatting on an absentee landlord's vacant land.

\textsuperscript{78} PD WA 10 1895 1199-1200. It is ironic that while the passing of these \textit{Acts} was an important measure in combating the outbreak of disease and one which would have an effect on the standard of future housing in Perth, circumstances in the city were already such that the most serious outbreaks of typhus were to occur in the three years (1896-98) immediately following the introduction of these \textit{new laws}.

\textsuperscript{79} The \textit{Victorian Health Act} was the basis for the 1895 \textit{Amendments to the Public Health Act}. PD WA 10 1895 901.

\textsuperscript{80} PD WA 10 1895 1115.
constructions (wall thickness), parapet walls, flues and fireplaces and, importantly, provision of adequate ventilation. The new laws also outlawed the residential use of buildings constructed for non-residential purposes, for example cowsheds. In an overcrowded city threatened by fatal epidemics, health considerations and a public outcry were powerful forces for changes to the building regulations.

Perth City Council, facing the problems of a building boom and threats to public health in an expanding city, anticipated the passing of the new Building Act and recommended that a special committee be appointed to consider extending the boundaries of the area covered by the act. The following year, Walter James, city councillor and parliamentarian, and Cr. J Hurst, a builder, were instrumental in the Perth City Council establishing its own set of building by-laws. The Perth City Council's building by-laws were quickly passed and gazetted in July 1896. Included in the by-laws was the necessity for architects and builders to submit drawings, including plans elevations and sections, with their applications for a building licence. Concerned with the condition of numerous houses built on swampy soil, the council decreed that all foundations had to be 200mm wider than the walls they supported, all external walls were required to be a minimum of 215mm thick and all internal walls to be a minimum of 100mm thick. For health purposes, all habitable rooms had to have a minimum volume of 22.6 cubic metres and a minimum ceiling height of 3.0 metres, while the privy had to be located a minimum of 3.0 metres from the house (a marked difference with the 15.25 metres required in Melbourne). As part of these by-laws, it was agreed that wooden buildings would be outlawed within the area bounded by Colin and Dyer Streets to the west, Newcastle, Ellen, Mangle, Sampson Streets and Suburban Road to the north and the river to the east and south. (Fig.2.8)

A short while after the state government passed the Building Act Amendments letters of complaint were sent to Perth City Council

81 PCC Minutes, 4 September 1895, p.27.  
82 PCC Minutes, 10 June 1896.  
regarding the construction of new timber buildings. These buildings were illegal under the new Building Act and the writers wanted the Perth Council's building surveyors to take action against the offending owners.84 It was perhaps coincidental that a week later Cr. Hurst, a candidate for the Perth mayoralty, addressed the Bricklayers Society on the subject of outlawing timber buildings in Perth and won the society's full support for his campaign.85 The following year the North Fremantle Council moved to withhold building licences for timber houses, a move which naturally caused heated local public debate. "S.T.", supporting the proposal, argued that while in the short term the additional costs involved in building in brick might be an imposition on workers, the long term benefits were clear. Timber houses had "a very poor appearance", as well as being "inflammable, dangerous and unsightly buildings", he claimed, whereas brick buildings lasted longer, needed less repair and withstood white ants and the dry climate better. "S.T."'s final point in support of brick housing, was that local financiers lent money more readily on brick or stone houses; the Post Office Savings Bank and AMP were lending at 6% for brick or stone housing, whereas timber houses attracted a higher lending rate.86 Such were the forces, explicit and implicit, favouring the construction of brick housing throughout Perth.

Whether houses were built in brick or timber, the problem of unsound building practices continued in Perth. The demand for housing, of any standard, continued to grow as the immigration figures peaked in 1896-97. Overwhelmed by the volume of the building boom, the city council had trouble policing its building regulations. The newspapers continued to receive letters warning of the dire consequences of uncontrolled building and the "jerry-builder"; one Victorian writer recalled the experiences of "marvellous Melbourne" transformed to "mad Melbourne", before it became "miserable Melbourne".87 Similarly, "JJ" warned that "if

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84 PCC Minutes, 4 November 1895.
85 West Australian, 8 November 1895, p.4.
86 Western Mail, 6 March 1896, p.11.
87 West Australian, 28 September 1895, p.8.
Fig. 2.8
City of Perth, c.1903. The map indicates the area within the Perth town site subject to the Council's "brick only" building regulation of 1897.
(Source: M Pitt Morison and J White, *Western Towns and Buildings*)
we are to build this city soundly and well some supervision must be exercised over these deplorably selfish members of the community."\textsuperscript{88}

Despite the flurry of legislation enacted in 1895 to combat the insanitary conditions in the overcrowded city, the lack of an efficient method of sewerage disposal remained a major health concern in Perth. The underground seepage of contaminated water from cesspits into water wells was an obvious source of disease, but the problem of effective sewage disposal was continually put aside. Proposals to introduce a deep sewerage system in Perth were rejected due to the obvious expense, which would be incurred by government and property owners alike. Instead, short term measures were introduced. The provision of earth closets had been regulated in the \textit{Building Act (1886)}, while in 1894, to improve the efficiency of its service, the Perth City Council took over responsibility for collecting the city's night soil. By 1897 the city's sanitary department had 42 men, 12 drays, 4 waggons and 22 horses clearing 6,270 closets in 5,535 households twice a week.\textsuperscript{89} But it would be nearly a decade before septic tanks and deep sewerage were introduced in Perth.

The situation in the major cities of the eastern states was more advanced than Perth and, again, Melbourne was recognised as the leader in the field of public sanitation services. In Perth comments on the subject, from both "T'Othersiders" and locals, frequently referred to Melbourne as the example of how to tackle problems associated with the public supply of fresh water and the disposal of sewerage and waste water.\textsuperscript{90} After 1893 households in Melbourne were progressively connected to a public sewerage system. Sanitation improvement was a major public issue in Melbourne. It was a costly undertaking for home owners, particularly as

\textsuperscript{88} \textit{Western Mail}, 24 September 1897, p.41. "JJ" might well have been Julian James, who had written previously to the paper complaining about Perth houses having brick foundations, 8 November 1895, p.15.

\textsuperscript{89} \textit{PCC Sanitary Department Report (1897)}, as cited by S. Hunt, \textit{Water, the Abiding Challenge}, p.41.

\textsuperscript{90} \textit{Western Mail, West Australian}, etc.
it was introduced at the beginning of an economic downturn, but the Victorian government pressed ahead with the work.91

Typical of the public interest in the subject was a paper given by G. Gordon, in 1890, to the Australian Association for the Advancement of Science on "Household Sanitation". Gordon stated the prime requirements of a healthy habitation to be; firstly, a good site and the correct construction of the house itself, secondly, plenty of fresh air, thirdly, a supply of fresh water, and fourthly the speedy and as far as possible the automatic removal of all refuse."92 These factors are considered to be obvious and taken for granted today, but in the 1890s building conditions, health knowledge and political inertia were such that these measures had to be spelt out publicly. Ingrained public attitudes, particularly on subjects such as health, take time to change and even in the 1890s the scientifically discredited miasmata theories on the transmission of diseases still appeared to underpin the recommendations of some health advisers. S. Hurst Seager, speaking on "Insanitary Houses and How to make them Healthy", while stating his concern for providing adequate ventilation, fresh air and proper drainage for houses, still made traditional recommendations based on the position of the house to the coast line, altitude above sea level, and prevailing winds, rather than emphasising aspect, soil conditions, supply of fresh water and adequate drainage.93 Progress was made in the health debate and two years later, Hillson Beasley, in a paper titled "The Sanitation of Dwellings" presented to the Royal Victorian Institute Of Architects (RVIA), explained the importance of choosing a well-drained site, debated the conflict between the health value of sunlight penetration into each room and the climatic problem of heat penetration and suggested that the lack of damp proof coursing was a major cause of damp in housing.94 While Beasley strongly supported the introduction of a water-borne sewerage system, rather than Melbourne's pan system, he emphasised

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91 BEJ, 26 July 1890, p.253.
93 S. H. Seager, "Insanitary Houses, and how to make them healthy", ABCN, 7 March 1891, p.164.
that the introduction of the new sewerage system should be with the minimum of inconvenience and cost to householders, given the present economic climate. On the question of location of the W.C., Beasley debated the issue of having it conveniently in the house against its odorous nature. He decided in favour of convenience, combined with the use of airlocks and good ventilation. Beasley concluded by urging architects to accept the responsibility of dealing with sewerage issues, rather than leaving it to engineers. In all it was an impressive paper, indicating the grasp some architects had of health issues, and recognised how these issues would affect their designs. It was to be this level of knowledge that would influence debate at the end of the decade, when the same architects practised in Perth.

2.5 Urban Expansion

Since first settlement Western Australia had laboured under a shortage of manpower and over the years the state's political leaders had adhered to a policy of "populate or perish". They were committed to the idea that the state's economic future was based on rural production. Therefore it was not surprising that the Premier, Sir John Forrest, taking advantage of the inflow of gold prospectors to Western Australia sought to build up the state's permanent population by introducing a rural land settlement policy. The Homestead Act of 1893 was intended to create a "bold yeomanry", settled in an expanded wheatbelt, and thus make the state agriculturally self sufficient. This policy was readily supported in parliament, coinciding as it did with the "back to the land" movement, which emerged in Australian politics in the 1890s. But Forrest's "homestead policy" was only a modest success. Economic and social factors in Western Australia did not demand large scale rural settlement. The Australian rural industry, with its high volume and high value production, was very efficient by world standards. Utilizing advanced agricultural machinery, farmers required a relatively small force of unskilled labour. In Western Australia this problem was compounded

95 PD WA 4 1893 226-227, The Homestead Act
96 "The issue of 'how to get the people back to the land' is giving anxious thought to politicians throughout the Commonwealth" wrote W E Bold in "The Modern Municipality", WAMBEJ, 2 December 1905, p.17
by the relatively few gold diggers who had the skills, or desire, to clear
virgin bush for wheat production. The expected exodus of the mining
population from the goldfields to agriculture did not eventuate. Instead
the majority of one-time prospectors, predominantly from urban
backgrounds in the eastern colonies and Britain, gravitated to urban
settlements, looking for more suitable employment and seeking a more
comfortable lifestyle.

Politicians gradually recognised this situation and four years later there
was a shift in the debate on land settlement. While the value of having a
rural based population was still accepted, politicians ensured their
growing number of metropolitan constituents were also favoured by new
legislation. In 1897 the Commissioner for Crown Lands, George
Throssell, debating the Residence in Goldfields Act, told Parliament, "the
Government are desirous of carrying out the principle that workmen's
blocks should be provided not only in the goldfields, but in every part of
the colony." 98 The following year, in the introduction his Land Bill,
Throssell argued that for its long term growth Western Australia needed
to attract settled families, declaring "we have attracted many men from
the other colonies to our shores; but to a large extent we have failed to
attract their wives and families." That these men had wives and families
he deduced from the considerable amount of money remitted annually by
the postal service to the eastern states; money which the government
would prefer to remain in Western Australia. 99 The key to settlement
was affordable home ownership. "I need not dwell, I am sure, on the
charm of (land) ownership, and the great fascination it exercises on
working men both here and everywhere else", Throssell shrewdly
noted. 100 He based the legislation on the South Australian act, in which
1,012 square metres was already established as the basic residential lot
size available to workers and artisans. The problem with previous crown
land subdivisions was that workers could not afford them; for example,
the 1.6 and 2.0 hectare lots on the Perth Commonage (Subiaco),
subdivided by the government in the late 1880s, had been bought by
speculators, subdivided again and lots of 506 square metres sold at

98 PD WA 11 1897 369.
99 PD WA 12 1898 632-63. £411,733 was remitted in 1896 and £791,000 in 1897.
100 PD WA 12 1898 632-63.
inflated prices to workers. This legislation would give workers and artisans the opportunity to buy affordable residential lots and thus they would settle in the state, with their families, or marry and thereby redress the state's sex imbalance. Throssell's strategy strongly encouraged suburban settlement and represented a major shift from Forrest's earlier concept of a rural based population, but given that so many of the new immigrants came from urban backgrounds, this shift in policy was politically astute.

During the land boom of the 1880s Melbourne's inhabitants had demonstrated their preference for the suburban lifestyle. Between 1881 and 1891, the city's population increased from 284,874 to 491,700, but only 30% of the increased population settled in the seven older inner municipalities and the percentage of the metropolitan population living in these older inner municipalities decreased from 70% to 54%. Melbourne's growing population took advantage of the establishment of an extensive suburban rail network to spread out to more distant residential areas. Writing in the early 1880s, Twopeny noted "it is strange how the Australian townsman should have so thoroughly inherited the English love of living as far as possible away from the scene of his business and work during the day." The ideal of home, financial incentives and social approbation of owning property spurred many people to buy the most affordable suburban lot. The development of suburban estates was seen as providing the ideal environment for the privacy and regulated domesticity associated with the emergent middle-class lifestyle; incorporating as it did moral, religious and social aspirations. High density living in two storey terraces and row houses, on blocks ranging from 4.27 to 6.1 metres wide, sometimes with

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101 In 1892 Patrick Callaghan, a Melbourne investor subdivided Lots 243, 244 and 245 into 141 housing lots; lot 50 was bought by Charlotte Black, a widow in Melbourne, in 1893, but was left vacant until 1911, when Walter Lay, a builder, bought the site and built a house, which he then let to tenants.

102 Throssel had had a political change of heart. Back in 1892 he had argued in favour of rural settlement on the basis that city life was demoralising, whereas country life made men self-sufficient, law abiding and a better colonist altogether, but even then he had warned parliament of "the tendency of the labouring class to cling to the town." PD WA 2 1892 695-697.

103 J. W. McCarty, Urbanisation in Australia, p.71.

104 R. E. N. Twopeny, Town Life in Australia, 1883, p.17.

verandahs fronting directly onto the street boundary, or a front setback of only two or three metres, in inner areas such as Carlton, Parkville and Prahran, was increasingly rejected in favour of the detached villa set well back on its own landscaped block in the new outer suburbs such as Hawthorn and Camberwell. (Figs.2.9 & 2.10) As a result of this trend Melbourne had become, by 1891, a more suburban settlement than Sydney.106

In 1891 Paddington, a Sydney suburb of compact middle class terrace houses sited over 162 hectares, had a population of 18,392 (a density of 114 persons/hectare), while in Melbourne Collingwood had a population of 30,295 living on 374 hectares (81 persons/hectare) and Richmond 31,286 on 485 hectares (65 persons/hectare), whereas the Perth town site, covering 780 hectares, had a population of 9,500 (a density of 12 persons/hectare).107 Perth's expanding population could have been accommodated within the existing town site if there had been a preference for consolidated land use. The housing density in Perth, prior to the gold-rush, in comparison to cities in Britain and the eastern states, was remarkably low. But rather than consolidate by building terrace housing with a density comparable with Paddington, or developing vertically in the tradition of Scottish and European cities, residential development in Perth sprawled out horizontally into newly established surrounding suburbs.

Even prior to the introduction of inexpensive transport services the artisan class in Perth was able to reside in a relatively suburban environment. A slow rate of population growth and unsteady economic development over the previous seventy years had not produced the circumstances in which neighbourhoods of high density housing immediately surrounding the city centre were constructed, as can be

106 Max Neutze, Urban Development in Australia, p.21. This trend was to continue. In the Census of 1901 Melbourne had a population of 501,580 living in 658 hectares, whereas Sydney had 496,990 living in 375 hectares and Perth had only 38,400 living in almost 65 hectares. Yearbook of WA (1900-01), p.8.

107 G. Seddon & D. Ravine, A City and its Setting, p.261. Seddon points out that there is some debate as to which boundaries are taken for Perth City and how this affects the population figure, but whether one takes 9,500 as do Seddon and Stannage, or 16,000 as does McCarty, the point of the comparison still holds.
Figs.2.9 & 2.10
Suburban houses, Melbourne. The houses, designed in the early 1890s, were set in spacious gardens. The editor wrote of Walker's cottage, "the effective composition and half timbered gable strikes us as particularly picturesque and pretty."
(Source: ABCN, 21 April 1891, 6 February 1892)
found in Melbourne or Sydney. The predominant housing model, even in the town centre, was traditionally suburban despite an increase in density in the 1880s. Therefore, when rapid residential expansion began in Perth in the late 1890s it was possible to build detached single storey housing at a distance of only 1.5 kilometres from the central Post Office. The new suburban housing in East Perth, Highgate, Northbridge and West Perth was within an acceptable walking distance of the city centre. (Fig.2.11) There was no need for suburban development to leapfrog over an existing mass of dense inner city housing, because it practically did not exist in Perth. The introduction of an affordable tram service in 1900 increased the attraction of these inner residential areas, while enabling residential growth to occur in the more distant areas of Leederville, North Perth and Mount Lawley.

By 1901 there was a population of 27,553 persons living in an area of 1,150 hectares (approximately 24 persons/hectare).108 Perth, which prior to the gold-rush had a low housing density, was to continue this pattern of settlement and the Victorian immigrants, based on their demonstrated preference in Melbourne in the previous decade, could be expected to reinforce this pattern.

Initially the immigrant population which flocked to Perth sought rental accommodation in the city centre, within walking distance of job opportunities and city services. This created a ready market for speculative housing of any sort and consequently inner city land was intensively subdivided, and then often individually subdivided again, into smaller lots as landlords and small scale speculators tried to maximise returns, resulting in an uneven, patchwork pattern of lot sizes in East Perth, Highgate and Northbridge.109 (Fig.2.12) The intensity of this subdivision and housing development is best reflected in the growth of

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108 Yearbook of WA, (1900-01), p.9. These figures are from the 1901 Census and cover the Perth magisterial district.
109 For many years the area on the northern side of Perth railway station, from Roe Street through to Newcastle Street, lacked an identifying name. Officially it was part of central Perth, but it was physically and mentally separated from the city proper by the railway. In the late 1970s the area was named Northbridge and this reference is used throughout the thesis for the location of buildings.
Fig. 2.11
Map of Perth and Suburbs, 1900. The map indicates the short walking distance of new suburbs from the General Post Office.
(Source: Wise's Postal Directory, 1900)
Fig.2.12
North Ward, City of Perth, c.1895. The map illustrates the patchwork effect of uncontrolled land subdivision in the inner areas of the city.
(Source: WA State Archive)
East Perth, an area on the eastern edge of the city. In 1884 the area had 112 houses, with 600 occupants, set amongst fruit and vegetable gardens, paddocks and investment properties, by 1894 it had more than doubled to 245 houses and 1,300 residents, but by 1904 it had increased more than fourfold to 1,066 houses and 6,000 occupants. During this period the city underwent many changes. New and expanded businesses competed with the resident population for land. The central city became more congested and living conditions deteriorated. Where previously the city centre had accommodated a full range of urban activities and services, a degree of specialisation and distinct differentiation of land use emerged. Residential land came under pressure from commercial activities and gradually those who could afford to do so moved to the new suburbs.

The increasing preference for a suburban lifestyle was evident in the growth of population in the new suburbs. In 1894 the government, responding to the needs of young families, planned to build primary schools in East Perth and Leederville and post offices in East Perth, North Perth and West Perth. The following year, 70 residents of Leederville, a "rapidly rising suburb" with a population of 600 residents "living in their own homes", petitioned the Commissioner of Crown Lands to set up a Road Board, so they could have some control over the suburb's development. So strong was the population growth in the area that two years later Leederville was gazetted as a municipality with a population of 2,545 living in 875 houses. An 1895 advertisement for suburban land in Perth commented that "a marked peculiarity of Australians is their preference for cottages, and residences, Villas or Mansions (as means permit) outside of the city." It was suggested that the basis for this preference was "the dislike of the restraint to crowded localities", "the love of personal liberty and freedom" and "the enjoyment of the fresh and bracing air of the more open districts." This statement could be regarded as no more than a sales promotion for fringe land, if it

110 M. Thomas, East Perth, p.1. It is interesting to note that while the number of houses increased the ratio of inhabitants remained constant at six persons per house. Thomas's study provides details of the social structure of the suburb.
111 PD WA 6 1894 55.
112 Western Mail, 9 March 1895.
113 WA Yearbook, 1898. Suburban Leederville had an occupancy ratio of three persons per house, compared to East Perth's ratio of 6:1.
114 Supplement for Lockeridge Estate, WA Record, 19 October 1895.
was not supported by numerous similar references in Perth and recent experience of urban development in the eastern states.

In the early 1890s, in response to the increasing number of immigrants arriving in Perth and the "boom" atmosphere generated by the gold-rush, colonial land grants in North Perth, Leederville, Subiaco and Victoria Park were rapidly subdivided in a piecemeal, uncoordinated, fashion. Land, which had lain idle for many years, was subdivided, and then subdivided again, as the government, land companies, syndicates and individual property owners, sought to capitalise on the increasing demand for residential lots. (Fig.2.13) The result of this large amount of land subdivision was an oversupply of inexpensive suburban residential lots in close proximity to the city centre. While lots in Brisbane Street, Northbridge, might sell for £55, lots in Burt Street, North Perth, sold for £40 and lots in Leederville, with 20 metre frontage, sold for £30. Lots in Subiaco, probably small lots near industrial areas or the railway, sold for only £20. With land in the suburbs inexpensive, but also close to the city centre, it was not surprising that suburban growth was so strong in Perth.

The advantages of progressive land subdivision were not unknown in Australia, at the time. In 1889, an article in the Victorian Building and Engineering Journal, discussed a proposed suburban development 19 kilometres from Melbourne, "Hopetoun Model Suburb", in which "the drainage, sewerage, lighting, supply of water, tram and train service and sanitary arrangements are receiving the most careful and minute attention". The main, tree lined, thoroughfares would be two chains (40 metres) wide, traversed by intermediate roads, crescents and avenues, one chain (20 metres) wide. Land would be reserved for halls, tennis courts, cricket grounds and public and private parks, as well as reserves for schools colleges, churches and markets. Shops and business sites would be provided for in a central block. However, the most innovative

115 It became a legal requirement that land subdivisions be approved by the Land Titles Office in the Municipal Institution Act Amendment Bill (1897) PD WA 12 1897 997.
116 West Australian, 2 May 1895.
117 Western Mail, 6 October 1895, p.22.
Fig. 2.13  
Subiaco, 1892. Patrick Callaghan subdivided Lots 243, 244, 245 & 246 into one hundred and forty one small residential lots.
feature of the proposal would be the construction of roads, drainage and footpaths before selling the land.\textsuperscript{118} The development, based on Norman Shaw's plan for Bedford Park Estate at Turnham Green, London, sounded most impressive. However, as it was proposed to be built at the height of the land boom on a site 19 kilometres from central Melbourne, it might well have been necessary for the developers to go to extraordinary lengths to make this subdivision attractive to buyers. Nothing came of the proposal, but it was a significant example of the sophistication of town planning ideas in Australia.

The key point in the Hopetoun development was in the emphasis it placed on the provision, by the developer, of major services and public amenities, which was not common practice in Australian private subdivisions, especially in Perth.\textsuperscript{119} There was a widely held belief that this type of subdivision was more expensive to develop and property developers questioned whether the public would be willing to pay for them. It is clear that developers, their architects, engineers and surveyors were aware of progressive methods of land subdivision, but generally unless forced by legislation, their practice was to assess their market and subdivide accordingly. Ironically, by the time legislation specifically governing land subdivision in Perth was passed in 1906 most of the land within an eight kilometre radius of the city centre had already been subdivided, and sometimes subdivided again. The size and standard of most suburban lots were already established.

Town planning and subdivision standards were issues of increasing public debate in the eastern states and in the 1890s articles such as "Layout of Towns" by John Sulman were published in architectural and building journals.\textsuperscript{120} But in Perth, in this hectic boom period, such issues were largely irrelevant. The competition for residential lots from home builders, land speculators or anyone wanting to take advantage of the booming economy and escalating land prices, placed the emphasis on

\textsuperscript{118} P. E. Treeby, \textit{BEJ}, 'Hopetoun Model Suburb', 31 August 1889, p.176.

\textsuperscript{119} The use of the words crescents and avenues is interesting to note, as they were soon to be frequently used as replacements for roads or streets in the more picturesque subdivisions.

\textsuperscript{120} J. Sulman, \textit{BEJ}, "Layout of Towns", 1 February 1890, p.37.
quantity not quality. Subdivisions, even after the enactment of the 1895 Acts were subject to minimum legislative controls, and it was left to the developer to apply standards according to the conventional wisdom of the market place. The grid-iron street layout continued to be employed, irrespective of topography, until the turn of the century. when ideas associated with a more picturesque following of the contours of the land were introduced.121

In 1901 developers S. W. Copley and R. T. Robinson established the first of the Mount Lawley Estates. The subdivision did away with the typical rectilinear grid and streets were aligned sympathetically with the topography. The estate was intended to be prestigious, competing with estates in West Perth for middle class professional residents.122 However, as it was 1.6 kilometres further out from the central city the Mount Lawley Estate had to be presented as being that much more amenable. The various sizes and prices of lots in the estate reflected the status of their location and amenity. (Fig.2.14)

Ease of access from the home to the workplace was an important consideration for land buyers and in the marketing of land there were constant references to the location of the estate relative to the central city, the means of access, whether it be by foot, tram, bus, train or carriage, and what it would cost the householder in terms of time or money. Thompson's studies of suburban developments in Britain conclude that the introduction of an efficient and inexpensive public transport system "made the outer suburban dormitories possible, but did not create them."123 Selwood stresses that the role of the transport routes in Perth's suburban growth patterns was similarly permissive, rather

121 See plan of Mount Lawley Estate Nos. 1 & 3, and "Garden Suburbs for Melbourne", Real Property Annual, (1916), p.66. Even the plans for the Mount Lawley Estate show a shift in emphasis, with ACC.78 521 and 523 having different subdivisional layouts of the same land.

122 Richard Stanton commenced his development of the Haberfield estate, Sydney, at the same time (1901). The parallel growth of the two estates would be an interesting study.

Fig 2.14
Estate No.1, Mount Lawley, c.1903. The largest and most expensive lots follow the contours at the top of the hill, the medium priced lots (1012 sq.m) are in the middle and the inexpensive lots (506 sq.m) are in the valley, adjacent to the railway.
(Source: Battye Library, Real Estate Plans, No.520)
than determinative. The editor of the *West Australian* summarised the relationship between the growth of suburban housing and the provision of public transport as follows; "the wage earning classes must be housed. If the city is not to be crowded with slums the suburbs must be made available for them, but the scarcity of good roads and the absence of a tramway system makes residence at a distance from the centre of the city highly inconvenient". In Perth local opinion favoured the establishment of suburban housing over city "slums" and therefore the provision of roads and inexpensive transport systems was necessary to make the suburban alternative possible.

The principal areas of immediate residential growth in this boom period in Perth strongly adhered to the relationship between access to the city centre, workplace and transport. Wealthy former residents of Perth were able to establish themselves in the more distant suburbs of Claremont and Cottesloe, with easy access to the city by rail, but skilled and semi-skilled workers were restricted in their choice of neighbourhood by their economic need to reside within walking distance of their workplace. Victoria Park, a low lying area south of the river, held little attraction for most land buyers and therefore lots sold cheaply. Its prime attribute was cheap land within walking distance of the city and so it developed as a working class suburb. This nexus between the location of housing and the workplace would be finally broken only by the provision of a relatively inexpensive public transport system.

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125 *West Australian*, 14 September 1895, p.4.
126 Perth City Council rate books indicate that in the early 1900s a number of tram workers lived in the streets off Trafalgar Road near the East Perth tram depot, while the rail workers lived closer to Claisebrook Station. Similarly, when the State Engineering Works, the largest single industrial employee in the state, moved its operations from Fremantle to Midland Junction in 1904 there was a tremendous growth of inexpensive housing in adjacent residential estates, such as the Montreal Estate. WAMBEJ, 6 August 1904, p.18.)
In 1895, due to the difficulty of access, Perth had practically no northern suburbs. W. E. Bold recalled "there was little settlement north of Bulwer Street. North Perth, was non-existent, except for a small settlement known as Woodville" and beyond Walcott Street was bushland. In 1896 there was public discussion on the introduction of a tram service, with a proposal that one line would go west along Howick (East Hay) Street up to Colin Street, West Perth, and another to go north along Beaufort Street up to Highgate Hill. There is evidence, from the Land Titles Office, of a flurry of re-subdivision of land into smaller lots in the inner areas adjacent to the proposed routes, in anticipation of the introduction of the tram service: these include the St Alban's Estate in Highgate, the Colonial Finance Company's development at Lake, Brookman and Moir Streets (1896-7) (Fig. 2.15) and Lot E17 on the corner of Goderich and Bennett Streets (1897). (Fig. 2.16)

Initially, there was a high demand for residential lots in the city centre, but these lots were expensive and often small. However, there were many inexpensive lots available on the fringe of the central city. Residential land in Subiaco, Victoria Park and North Perth was within a reasonable walking distance of the city centre and the introduction of public transport soon made it even more accessible. This served to relieve the pressure to develop inner city residential lots to high densities and encouraged the growth of suburban housing. The strength of suburban growth at the height of the boom was reflected in the gazetting of local councils. Leederville was formally established in 1896, Subiaco and Victoria Park in 1897 and then Claremont in 1898. Subiaco and Leederville, located adjacent to the Perth-Fremantle railway, were attractive suburbs to those who could afford the expense of a daily train fare, or those who worked in the light industries adjacent to the railway. In 1895 Subiaco had a population of 100, in 1896 it had risen to 1,300 persons living in 260 houses and 59 tents.

While many suburban subdivisions were laid out along the established transport routes, numerous others were developed in anticipation of the

129 Western Mail, 24 April 1896, p. 18 and 26 March 1897, p. 13.
Fig. 2.15
Lot 28, Brookman and Moir Streets, Northbridge. This inner city subdivision of small narrow lots was undertaken by an investment company in 1897.

Fig. 2.16
Lot 17E, corner of Bennett and Goderich Streets, East Perth. The lot was subdivided in this irregular manner c.1897.
extension, or introduction, of transport services. In 1892 lots on the Burswood estate were marketed in anticipation of the construction of the Burswood (Rivervale) Station on the Perth-Bunbury railway line and by 1900, despite the absence of stations, all the land bordering this railway line was subdivided. Where there was no established transport route the sales promotions usually made reference to future transport proposals, real or imagined. The Lurline estate in North Perth, located along Wanneroo Road, was described as being "a comfortable walk from the Town Hall", but more importantly it was also along the route of the "proposed tram line."130 Property developers and residents in turn exerted pressure on transport companies and governments to provide transport links to the city centre as a means of making their lots more accessible and therefore more amenable.

At the height of the building boom, the population sought to buy any property, no matter what its amenity. There was tremendous pressure to become financially involved in the building boom, to gain some economic benefit, and this meant buying whatever property could be afforded. But as the economic and population growth levelled the pressure on the property market dropped and as the situation gradually shifted, from being a sellers' market to a buyers' market, buyers were able to be more discriminating and sought property with amenity. Developers had to change their marketing tactics; subdivisions of residential land had to be more attractive to buyers. Basically, it was the developer's assessment of the market which guided the subdivision of land. In Perth, judging from advertisements for new residential estates, the prime factors to be considered included the quality of site, proximity to employment, convenient access to public transport and price of lot sizes. These factors were based on conventional wisdom, as established over many years.

The perceived salubrity of a residential site was strongly determined by miasma theory. The miasma theory, which held that bad air, noxious vapours, odours and gases were the means through which diseases spread, was a commonly held belief throughout the nineteenth century.

130 Battye, Acc.No.78c, Real Estate Plans, No.586.
Only after the 1880s, when Lister had developed his theory of bacterial contagion, was the miasma theory slowly discredited. Meanwhile its influence on the siting of housing was profound. Architectural writers, including Loudon (1833), Kerr (1860) and Stevenson (1880), advised readers to site their houses in such manner as to overcome problems implicitly associated with miasma. River flats, estuaries and swamp lands, in fact all lowlands, were to be avoided if possible. Instead hilltops and high lands, preferably swept by 'cleansing' breezes, were recommended as prime residential locations. These ideas were firmly accepted at all levels of society, they were implicitly referred to in advertisements for land, and they influenced the location of the most, and least, expensive residential areas in Perth.131

During the boom period so much land throughout the metropolitan area was subdivided that by 1900 vacant residential lots were far in excess of immediate, or long term demand.132 This kept land prices, at least for the more distant and less accessible lots, low.133 Therefore sellers worked hard at extolling the specific advantages of their particular estates. Developers had to find ways to make their land sound attractive to potential buyers. Numerous advertisements for land sales, over a lengthy period, emphasised the investment potential of the land; lots near Servetus Street, Swanbourne, apart from "commanding picturesque views of sea and hills, also provided the "best opportunity ever offered to small speculators", while potential buyers of lots on the Tennyson Park Estate, in Yokine, were exhorted to "buy a block for the baby."134 Prospective buyers of land on the "Highlands of Nedlands" estate (1912) were advised that land transformed from paddocks to home sites then to business sites was the means to wealth, the "password to prosperity."135 As a result, many local Councils, particularly those in expanding areas

131 The effect was right, but the cause was wrong, in the miasma theory. The problem was not the foul odours or vapours, these were the symptoms of the real problems, which were the stagnant pools of water, polluted water wells and the piles of refuse and human waste, which, because of soil drainage, were more likely to accumulate in the lowlands.


133 West Australian, 10 May 1895. Land on the Belmont Park Estate, 4.8 kilometres from the town hall, sold at only £10 for 0.4 hectares.

134 Battye, Acc.No.78c, Real Estate Plans, Nos. 146 and 857

135 Battye, PR.2812, Follow the Tramtrack, 1912.
such as North Perth and Victoria Park, had numerous vacant lots initially listed with property owners whose addresses were in the eastern states, or on occasion Britain.\textsuperscript{136}

2.6 Housing Finance

The ownership of property, particularly a home, was firmly established as a social objective throughout Australia in the 1890s, as it was in other new post-industrial nations such as Canada and the USA. The attainment of this objective by an increasing number of families depended on several factors including the availability of cheap land, inexpensive building materials and labour, high wages and steady employment. This situation had existed in the eastern states of Australia throughout the 1880s, where home ownership had been within the reach of many families and within the hopes of most, resulting in the rapid suburbanisation of the major cities.\textsuperscript{137}

The property boom in Melbourne, at its peak between 1885 and 1888, had been underpinned by several important factors; population increases, employment opportunities, high wages, a housing shortage and an inflow of British capital and it was these same factors, which produced the property boom in Perth after 1893.\textsuperscript{138} The booming gold-based economy in Western Australia established the possibility of home ownership to the local population and immigrants alike. In marked contrast to Sydney and Melbourne, employment opportunities in Perth abounded and wages were relatively high, thus ensuring the ability of many workers to buy a house.

In an expanding economy housing is regarded as a good investment. It provides financial and social security and in periods of prosperity has a rising value. This was certainly the case in Perth as the euphoria of the gold-rush caught the popular imagination. Hoping to take advantage of

\begin{itemize}
\item\textsuperscript{136} Perth City Council Ratebooks, 1895-1915
\item\textsuperscript{137} J. W. McCarty, Australian Capital Cities, p.37.
\item\textsuperscript{138} N. G. Butlin, Investment in Australian Economic Development, p.287.
\end{itemize}
the rising market many speculators invested in property and in doing so reinforced and contributed to its rising value. It was an economic upward spiral created and sustained by market confidence. Prospective British investors were encouraged to enter the property market by reports that individuals of the social calibre of the Earl of Carnarvon had shrewdly invested £20,000 in Hay Street retail property in the minor boom of 1891; land purchased for him by no less than the Premier, John Forrest.139

The level of wages, relative to the cost of land and building, is always critical in determining the ability of workers to achieve home ownership. A comparison of wages in Perth and Melbourne in the early 1890s gives an indication of the different economic conditions experienced by thousands of workers. (Table 2.2) When these wages are then compared with housing costs the possibility of home ownership in each city becomes readily apparent.140 Not only were wages higher and the prospect of being employed better in Perth than in Melbourne, but the price of houses in Perth was lower. The prices of the illustrated Melbourne houses are considerably higher than the cost of similar houses in Perth. (Fig.2.17) In the late 1890s the West Australian consistently advertised houses for sale in North Perth priced within the range of the following examples; a two room cottage for £80 (presumably weatherboard) and a three room brick cottage for £185.141

While home ownership was promoted within society on the basis of encouraging the individual to seek and secure his own social and financial well being, it was also presented as a moral choice between the desire to spend money and the duty to be provident.142 But morals aside there is also a major question of the allocation of limited financial resources. Real estate journals frequently present facts and figures to

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140 In the 1880s in Melbourne a home owner spent on average the equivalent of two years income buying a house, exclusive of land, whereas in 1989 an Australian could expect to pay the equivalent of 3 or 4 years wages on a house and land package. N. G. Butlin, *Investment in Australian Economic Development*, p.277 and *Weekend Australian*, 15 March 1889, p.18.
141 *West Australian*, 11 September 1895, p.2.
142 G. Davison, *The Rise and Fall of Marvellous Melbourne*, p.179.
Some contemporary house plans and elevations (1885)

Fig. 2.17
Plans and elevations, suburban houses, Melbourne, c.1885. During the building boom builders offered a wide variety of houses.
(Source: G. Davison, The Rise and Fall of Marvellous Melbourne)
promote the financial advantages of home ownership, but it is usually a one sided case, shaped to clearly favour ownership. There is a choice; it is possible to rent or to buy a house. When rent payments are lower than loan repayments for a similar house, there is the opportunity to either spend the difference between rent and repayments on maintaining a more comfortable lifestyle, or to rent a more expensive property to suit family size and status. Alternatively it is possible to cut back on lifestyle and comfort so as to be able to afford the loan repayments in the knowledge that a capital asset is gradually being acquired, while gaining the social status of being a property owner.143

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<thead>
<tr>
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<th>1890</th>
<th>1893</th>
<th>1894</th>
<th>1897</th>
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<tr>
<td><strong>Melbourne</strong></td>
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<tr>
<td>Plasterers</td>
<td>10s</td>
<td>4-5s</td>
<td>7-8s</td>
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<tr>
<td>Bricklayers</td>
<td>10-12s</td>
<td>4-5s</td>
<td>6-8s</td>
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<tr>
<td>Carpenters</td>
<td>10-12s</td>
<td>4-5s</td>
<td>6-8s</td>
<td></td>
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<tr>
<td>Labourers</td>
<td>7-8s</td>
<td>2s6d-5s</td>
<td>5-6s</td>
<td></td>
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<tr>
<td><strong>Perth</strong></td>
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<tr>
<td>Plasterers</td>
<td>9-13s</td>
<td>9-13s</td>
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<tr>
<td>Bricklayers</td>
<td></td>
<td>10s</td>
<td>10s</td>
<td></td>
</tr>
<tr>
<td>Carpenters</td>
<td>8-10s</td>
<td>8-10s</td>
<td>8-10s</td>
<td>12s</td>
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<tr>
<td>Labourers</td>
<td>6-7s</td>
<td>6-7s</td>
<td>7-7s6d</td>
<td>10s</td>
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</tbody>
</table>

**Table 2.2 Wages per Eight Hour Day (in Shillings)**


In Perth in the late 1890s economic conditions situation favoured home ownership. As a result of the massive increase in population and the resultant shortage of accommodation housing rents rose dramatically. In 1891 the official yearbook stated rent for a three bedroom house in town was between seven and ten shillings per week, while a five bedroom house rented for twelve shillings, and full board and lodging for a single man was between fifteen and twenty shillings.\textsuperscript{144} By 1895 a five room cottage was letting for twenty five to thirty shillings per week, leading the editor of \textit{the West Australian} to complain that it was difficult for a worker with a family earning £2 or £3 per week to manage.\textsuperscript{145} When rents are high it is often better to buy a house and repay the loan rather than pay high rent, particularly in a period when the value of housing property is rapidly rising and this was certainly the case in Perth in the late 1890s. Calvert reported "many working men however have purchased allotments about a mile [1.6 kilometres] from the city , and as well as in the city, and by the aid of the local building society have built their own houses at a cost of £150 and upwards. By a settled weekly repayment to the society the loan has been repaid and in the course of a few years enabled these thrifty men to become freeholders" and with the price of land in Perth having a steady upward tendency, Calvert regarded the investment as a good one.\textsuperscript{146} Many prospective home owners unable to raise a loan simply bought land and then built their house in their free time, all the while living in a tent.

Of course there were grumbles about the rising cost of living in Perth, which was understandable given the booming conditions. "The cost of living in Adelaide, Melbourne or Sydney is probably no more than one half of what it is here, while the comforts and conveniences of life are infinitely greater", complained Thomas Coombe.\textsuperscript{147} He was right, of course, but at least in Perth he might be in employment and therefore able to pay the higher prices, whereas in the other cities he might well be unemployed. But for all the complaints about the cost of living in Perth there was an increasing number of workers who were able to take advantage of the booming economy, steady employment, good wages,

\begin{footnotesize}
\begin{itemize}
\item \textsuperscript{144} WA Yearbook (1891), p.177.
\item \textsuperscript{145} West Australian, 14 September 1895, p.4.
\item \textsuperscript{146} A. F. Calvert, Western Australia (1894), p.231.
\item \textsuperscript{147} Western Mail, 26 February 1897, p.29.
\end{itemize}
\end{footnotesize}
cheap land and inexpensive building to achieve their desire to acquire their own land and house in Perth's new suburbs.

2.7 Building Industry

The most pressing demand for building materials came from the goldfields, where new cities such as Boulder, Coolgardie and Kalgoorlie were literally built in a matter of months, but before long, activities associated with servicing the gold-rush engendered the need for new buildings in Fremantle and Perth, which together with an increased demand for housing spurred the growth of the building industry in Perth.

In 1891 Mennel recorded that Western Australia had 32 saw mills, 7 brickworks, 6 breweries, 5 foundries and 3 furniture factories. Initially this list might appear impressive, however, two years later Hart described the state's manufacturing industries as being "naturally in a somewhat rudimentary condition."148 "Naturally", because until the gold-rush attracted a large population to the state the volume of demand for most manufactured goods had been insufficient to warrant local production. This situation was as true for the building industry as it was for general manufactured goods. Proprietary names, now synonymous with the building industry, like Bunnings, Whittakers and Brisbane and Wunderlich were not yet established in Perth in 1890, but they were to emerge and prosper in the 1890s in response to the demands of the property boom for building materials. The lack of local manufacturers of building materials is best illustrated by the import of timber products to a state renown for its export of timber. (Table 2.3)

With the dramatic increases in demand for building materials manufacturers were eager to establish factories in Perth. The Bunning brothers established their timber business in Perth in 1891; they were listed comprehensively in directories as builders, building materials merchants, importers of timber and manufacturers of furniture. Two

years later, having secured a number of substantial building contracts, including the Weld Club and Trinity Church, the Bunning company expanded to two merchant yards in Wellington and Goderich Streets, as well as owning brickyards at Claisebrook, Belmont, Bellevue and Glen Forest.¹⁴⁹

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<tr>
<th></th>
<th>1889</th>
<th>1890</th>
<th>1891</th>
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<tr>
<td>Furniture</td>
<td>£3,796</td>
<td>£4,290</td>
<td>£9,196</td>
</tr>
<tr>
<td>Timber (planed, tongued &amp; grooved)</td>
<td>£1,194</td>
<td>£3,467</td>
<td>£3,812</td>
</tr>
<tr>
<td>Timber (worked)</td>
<td>£349</td>
<td>£343</td>
<td>£1,504</td>
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</tbody>
</table>

**Table 2.3 Annual Cost of Timber Imports into Western Australia**
(Source: F. Hart, *Western Australia in 1893*, p.73.)

The Whittaker brothers had suffered bankruptcy in the Melbourne financial crash. They had taken out a £5,000 loan in 1888 to develop a speculative property in Malvern, but in March 1892 they were victims of the closure of Sir Matthew Davies' Mercantile Bank. Failing to salvage their business affairs in Melbourne they arrived in Perth in 1895 with the intention of re-establishing themselves as building contractors, but after a brief period they concluded it would be more profitable to supply timber building materials to the large number of people building their own houses.¹⁵⁰ In January 1896 they opened for business in the front

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¹⁵⁰ *Census 1911* indicates 75% of the houses built in Subiaco between 1895 and 1910 were built of timber.
room of a house in Broome (West Hay) Street, Subiaco, trading as Whittaker Brothers, Timber and Hardware Merchants. They sold floor boards, scantlings and roof timbers, but with the setting up of a joinery works they were able to also sell windows, door frames and timber mouldings, including architraves and skirtings, as stock items. Whittakers also made to order pre-cut houses, but these were intended primarily for use in the country, rather than residences in the suburbs.\(^{151}\)

Like many other fledgling industries in Western Australia these building companies were to benefit from the government’s policy of awarding lucrative contracts to local firms, which assured them of a steady income during their foundation years. Whittakers, for example, gained government contracts to supply desks and furniture for the increasing number of new primary schools, as well as office furniture for an expanding government bureaucracy.

Prior to the gold-rush Perth had a number of small family owned brickworks, but their manufacturing process was slow and the quality of the product uneven. The demand for bricks to meet the needs of the building boom meant the industry underwent rapid changes. To guarantee a continuous supply of bricks for their contracts a number of building contractors, including Robert Law and Bunning Brothers, bought or established their own brickworks. Eventually, to improve the volume and quality of brick production, brick manufacturers imported from Europe the latest manufacturing equipment, with the result that the volume and quality of bricks improved and their prices were kept competitive. In 1894 the Swan Brick Company advertised machine made bricks at 40 shillings per 1,000.\(^{152}\) Despite the large number of individual house builders who constructed their own houses in timber, the brick manufacturers were indirectly aided by the policies of local councils and financial institutions which positively favoured the construction of brick housing. In particular the Perth Building Society, which held 53% of building society loans in Perth in 1895, was able to reinforce the status of brick construction in Perth’s housing market through its "brick only" housing loan policy.\(^{153}\)

\(^{151}\) B. Moore, *From The Ground Up*, p.8, p.12 & p.76.

\(^{152}\) *West Australian*, 13 December 1894.

The majority of houses in Perth were either brick and (corrugated) iron or timber and (corrugated) iron. The raw materials for bricks and timber products were readily available for processing in Western Australia, whereas galvanised corrugated iron sheeting was imported in large quantities from Great Britain, due to the lack of locally available raw materials and the expensive manufacturing process. But this did not prevent iron from being an extremely popular building material and Charles Harper, in opposing the imposition of import duty on galvanised iron, informed parliament that it "is one of those things used in every phase of life in the colony....which is so generally used for many economical purposes."\textsuperscript{154} It was versatile material, capable of spanning large areas with little need for structural support, light and therefore easily transported to all parts of the state. For rich and poor alike, in Perth corrugated iron was the most popular roofing material.

Terra-cotta roofing tiles, although increasingly popular in Melbourne and Sydney in the 1890s, initially made little impact in Perth. Some brick manufacturers attempted to produce terra-cotta roof tiles, but the texture of the local clays was blamed for the failure of local production. Although roofing tiles were specially imported for a few individual buildings it was not until 1897 that terra-cotta tiles were regularly imported for general domestic use. Throughout the 1890s and even into the early 1900s prestigious buildings, including houses of the wealthy, were roofed with imported slate.\textsuperscript{155}

In 1890 there were two iron foundries in Perth, by 1895 there were five and in 1900 there were eight and for a decade cast iron found favour as a decorative building material in Perth. In Melbourne cast iron decoration was gradually losing its popularity; it was economically unnecessary in times of a depression and amongst architects it was being superseded by Arts and Crafts inspired decorative timber fret work. The building boom

\textsuperscript{154} PD WA 8 1895 170.
\textsuperscript{155} Although a few houses in West Perth still have their original slate roofs, many other buildings were later re-roofed with clay tiles, which seriously altered their appearance.
in Perth offered Victorian manufacturers a new market in which to sell their overstocked products. Some Melbourne based companies advertised cast iron verandah columns and decorative lacework in the Perth press, others established local businesses, using the same castings they had used in the eastern states. Many houses in East Perth, Highgate, Northbridge, Subiaco and West Perth featured decorative cast iron columns, balustrades, friezes and brackets. But cast iron details were in fashion briefly in Perth, by 1895 aesthetic values were already swinging in favour of the arts and craft movement and timber decorative elements, with their emphasis of craftsmanship, were soon to displace cast iron lacework.

2.8 Architectural Theory

The architectural debate on issues of health, planning and an Australian style begun in the eastern states in the 1880s continued, more intensely, in the 1890s. After 1895, when such a large number of Sydney and Melbourne architects began to practice in Perth, this debate took on a greater relevance to local architecture and was soon evident in discussions at the WAIA and in articles in local newspapers and journals. With the weekly publication of the *West Australian Mining, Building and Engineering Journal* (WAMBEJ) in 1903, the WAIA and the architectural profession had an official public forum in which to promote issues of international, national and local interest. Architectural ideas and information from overseas and interstate were now readily and quickly disseminated through the local profession in a manner that had previously been impossible. Time and distance were no longer major barriers to architectural development.

The architects who flocked to Western Australia in search of employment, in the late 1890s, brought with them the culmination of developments in architectural thought in Britain and the eastern states

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157 *Western Mail*, 29 May 1896, p.12. The WAIA held its inaugural meeting on 26 May, 1896.
as well as their own professional experience. The second half of the nineteenth century was most notable for its diversity of styles and uncertainty of direction. It was the result of a proliferation of new building types, materials, styles and forms, all sustained by a number of mutually contradictory architectural and social ideals, and supported by an expanding urbane middle class clientele. In Australia, in the 1890s, a growing sense of cultural and national identity, associated with the political move towards a federation of the Australian states, resulted in a steady debate on the merits of developing an architecture appropriate to Australian conditions.

In the late eighteenth century there was a proliferation of architectural books, most of which were little more than pattern books, but in the early nineteenth century design books, such as Loudon's *Encyclopaedia of Cottage Architecture* (1833), attempted to establish principles of design for domestic architecture. Following in this tradition, one of the most popular and influential sources of the principles of British domestic design in the latter half of the nineteenth century was Robert Kerr's *The Gentleman's House* (1864). His influence in Australia is evident from the number of Australian architects, who when explaining their own design principles, quoted Kerr or acknowledged their debt to him. Basic to Kerr's approach to domestic architecture was his belief that "the character of a gentleman-like residence is not a matter of magnitude or of costliness, but of design", by which he meant primarily the design of the plan. If the plan was wrong, he wrote, then no amount of embellishment could rectify the design. Through thorough planning, Kerr argued, it was possible to achieve the three basic qualities required of any gentleman's house; quiet comfort for the family and guests, thorough convenience for the domestics, and elegance and imposing form without ostentation. Kerr listed the characteristics of these qualities in the following order of priority; privacy, comfort, convenience, spaciousness, compactness, light and air, salubrity, aspect and prospect, cheerfulness, elegance, importance and ornament. 158 Kerr's approach to domestic design firmly established the primacy of the plan over other design considerations in

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158 These factors were repeated later as criteria in J. J. Stevenson's book, *House Architecture*, and numerous other books and articles, although in a slightly different order of importance as social needs altered.
the minds of a generation of architects, but of equal significance was his explicit demand that domestic architecture should respond to the contemporary structuring of middle class Victorian households; formalising in plan their preferences and priorities for domestic harmony and order. Except in the case of the Perth Deanery, this concern for design principles had little immediate impact on housing in Perth, however subsequent developments in design principles in the latter half of the century, absorbed by architects working in the eastern states, were to strongly influence the architecture of the gold boom period in Western Australia.

Sixteen years later, Professor J. J. Stevenson, in *House Architecture* (1880), while acknowledging in his introduction that Kerr's book "contains all that need be known" on the subject of planning houses, rearranged the priority of the characteristics of the well designed house. Stevenson's new listing of the key elements of planning included the following; multifariousness, isolation, unity, convenience, compactness and simplicity, light and air, warmth, aspect and prospect, and, finally, architectural effect. "Multifariousness", Stevenson's top priority for the well designed house, was developed in response to the late-Victorian family, which had developed a more complicated, categorised and segregated lifestyle, in which the relationships between each member of the household was more specifically defined and the demands for personal privacy more pronounced. Wealthy Victorians preferred to accommodate their new lifestyle by increasing the number of rooms in their houses; each room frequently being assigned a special, singular, function. The multiplicity of rooms and the need to separate the circulation paths of family and servants resulted in a far more complex house plan; virtually two houses entwined within one building. However, whereas Kerr had been content to apply any one of ten, or more, different stylistic treatments to the same plan, Stevenson argued that there should be a strong relationship between plan and elevation.

159 J. J. Stevenson, *House Architecture*, p.8. Original copies of Stevenson's books are in the Alexander Library (the West Australian State Library) and Curtin University of Technology (from Perth Technical College), however the accession records, which might explain how and when these books were acquired, are unavailable.

"What is wanted", he wrote, "is that in arranging the plan the architectural effect, internal and external, should be considered", even, he allowed, if that meant having to modify the plan. Stevenson followed the ideas and images of the picturesque developed by Pugin, Webb and Shaw.

In the 1850s A. W. Pugin had promoted the Gothic revival and the picturesque composition that it offered on the basis that it offered the designer scope for innovative planning through the possibility of differentiating internal functions by the use of different shape, sizes, proportions and features. Philip Webb's "Red House" at Bexley Heath, designed for William Morris, was one of the first houses to exhibit through its external articulation the internal disposition of the spaces. Their successors were designers of the Art Revival movement, notably "Queen Anne Revival" architecture, of which Stevenson was a leading exponent. It was not surprising that Stevenson advocated the revival of the "Queen Anne" style for domestic architecture; he believed it was both functionally and picturesquely complex and therefore most capable of comfortably accommodating the "multifarious" functional and aesthetic demands of the late-Victorian domestic household. It is evident from the numerous references to Stevenson's book and the repetition of his phrases by architectural writers in Australia throughout the late 1880s and the 1890s that House Architecture was widely read and had a significant influence in shaping Australian attitudes and approaches to domestic planning in the last decade of the nineteenth century. It reinforced the preference of Australian architects for the "Queen Anne" style as the most appropriate domestic architectural form.

In May 1887 John Sulman, newly arrived from Britain and soon to take up the professorship in architecture at Sydney University, published "An Australian Style", a three part article in which he explored the suitability of various architectural styles for Australia. Sulman acknowledged that

161 J. Burnett, Social History of Housing, pp.47-51.
162 M. Girouard, Sweetness and Light, p.39.
163 It has been argued, by later writers, that many of the "Queen Anne Revival" architects concentrated more on the pictorial potential of its form rather than the functional flexibility it offered. R. Macleod, Style and Society, p.36.
the Queen Anne style was popular for domestic architecture in England, because of its "flexibility, suitability and picturesqueness", however he believed it lacked a necessary formal strength and dignity; the Gothic Revival he dismissed, because of its inability to meet the "multifarious needs of modern society"; and although he regarded the architecture of the Italian Renaissance as unsuitable for cold Britain, he believed it held possibilities for Australia due to the climatic similarities. In Sulman’s opinion the chief factors an Australian architecture would have to deal with were: a sunny and bright climate, which made shade a necessity; heavy rain that required thick, or protected, external walls; the limited choice of building materials, predominantly rough bricks; and the high cost of labour. Therefore, he recommended the use of simple renaissance forms, large windows, verandahs of substance and loggias, but they should be integral parts of the building, not merely adjuncts. Sulman approved of the Australian use of stone or brick, particularly polychromatic brickwork, and also the terra-cotta, slate or corrugated iron roofs, but he rejected the use of cast iron or timber decorative fret work on the grounds of it appearing too frail.164

Sulman’s basic proposition, that Australian architects should break away from their habit of copying British styles and deal with Australian architectural problems and solutions according to their cultural context, presented a serious challenge to a profession so strongly linked by ideology, education and tradition to Britain. But the proposition, once in circulation, was to appear continuously in various forms in professional journals over the next two decades. It is somewhat ironic that the debate on Australian architecture was sustained by British and Australian architects applying British architectural theories. In his paper, "John Ruskin and Architecture", read to the Victorian Institute of Architects in 1889, H. Desbrowe-Annear suggested that an architectural student would need to closely study Ruskin’s writings on society and the honest use of form and function when developing an architecture suited for "a people that are predominantly British, living in a climate that is definably Australian"165; comments which earned young Desbrowe-

Annear a sharp editorial rebuke for implying that local architects lacked either an architectural theory or an understanding of Ruskin's work.166

British architectural journalist James Green, newly arrived in Australia, in his series "An Australian Style of Architecture", published in ABCN in late 1890, whole-heartedly supported the views of previous writers, emphasising the need to design a suitable architecture for the different circumstances found in Australia. Green believed historic European styles might not be adaptable to Australian conditions, in particular he referred to the Australian "habits of life, modes of building, procurability of particular materials and the value of labour."167 The rest of his articles was rather general in tone, except for one specific issue on which he was quite definite; Green regarded the suburban terrace and semi-detached villa, of which there were already many built in the inner city areas of Sydney and Melbourne, as an objectionable form of housing, supporting this opinion by quoting Ruskin's views on the moral and symbolic role of the (detached) home. But from where might this new Australian architecture emerge? Green made no specific suggestions to his architectural readers, pointedly he refused to "dictate to them what style of architecture they should adopt in their designs". He was not avoiding the issue, nor was he suggesting a ready made foreign solution, instead he hoped that through debate and design an indigenous style of architecture would emerge.

Emerging from this debate was the suggestion that architecture in Australia should consciously respond to two major and three minor issues of architectural importance; the colonial lifestyle of a predominantly British people, the distinctive Australian climate, the availability of local building materials, the local methods of construction, and the cost of labour. In 1906 it was these same factors which R.M. Hamilton singled

166 ABCN, 30 November 1889. Ruskin's pervasive influence on architectural thinking in Australia was constantly confirmed by the continuous references to his writings not only in the 1890s, eg. TA Sisley (BEMJ, 20 December 1890), E. W. Dobbs (ABCN, 28 February 1891), Green (ABCN, 1 November 1891), etc., but also Cavanagh in the 1900s (WAMBEJ, 6 August 1904).
167 J. Green, "An Australian Style of Architecture", ABCN, 18 October 1890, 25 October 1890 and 1 November 1890.
out as having determined the domestic architecture in Perth. "The plan of the small house in Western Australia is the result of conditions and circumstances", he stated; "climate all through Australia is bringing about a differentiation in social and domestic arrangements", while "the primary consideration is that of inclosing (sic) as large a space between walls as possible."\(^{168}\) But in this instance Hamilton was implying that the result was an unconscious pragmatic architecture, rather than a deliberate attempt to positively structure the design in response to these factors. The issue of an appropriate Australian architectural identity was raised on several occasions, but it often did more to cloud, rather than clarify, the debate. Usually it offered little more than the substitution of one style, form, or combination of building materials for another.\(^{169}\)

While the debate in favour of developing a distinctive architectural response to Australian conditions received widespread coverage and public support, with no noticeable opposition, putting it into practice would be a different matter as recognised by Melbourne architect and lecturer, A.B. Rieusset. In 1889, in his lecture on "The Study of Architecture", Rieusset noted that Australian architects "have the grand opportunity of developing a national style and it is from the rising generation that we may hope to see this achieved, for they are untrammelled by 'home' prejudices."\(^{170}\) The future of an Australian architecture rested with a new generation of Australian trained architects. Rieusset acknowledged it was asking too much of older architects, the majority of whom were trained in Britain, and their clients, many of whom still thought of Britain as 'home', to substantially adjust their cultural framework. Even so, it is apparent from the tone of architectural literature of this period that there was a gradual weakening of the British grip on Australian architecture, in favour of an architecture

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169 Unfortunately for the debate the issue of style was to eventually win out over theory and today architects, builders and their clients continue to vacillate between using one set of forms and materials or another.
170 A.B. Rieusset, "The Study of Architecture", *ABCN*, 17 August 1889, p.149. Rieusset was instrumental in establishing formal architectural education in Melbourne through a series of design classes he organised in conjunction with the Victorian Architects and Engineers Association.
more responsive to the prevailing local conditions. This encouraged Australian architects in the 1890s and 1900s to adopt a more eclectic approach in their use of form and stylistic details, which produced a distinctive body of domestic architecture, now classified as the Federation style.

It is possible to gauge the extent of British influence on the Australian debate from a paper presented by Adelaide architect Michael Cavanagh to the South Australian Institute of Architects, in August 1892. The topic, "Planning", referred to Cavanagh's design criteria for domestic architecture and in his presentation Cavanagh clearly acknowledged his debt to British architects for the development of his ideas. He paid glowing tribute to the work of Ruskin, particularly his influence in promoting the Gothic Revival, which Cavanagh believed could best accommodate the "multifarious duties of a modern household under one roof". Cavanagh's emphasis on the need to place convenience before anything else owed much to the principles established by Kerr, however his use of the phrase "multifarious duties" and his advocacy of providing numerous rooms for specific functions and the maintenance of external and internal privacy, indicates his adherence to the planning ideals of Stevenson, whom he quoted extensively.

Cavanagh's concern for the social convenience of the householder in domestic design is best demonstrated in his suggestion regarding the location of the front entrance. Although the Australian preference might be for the drawing and dining rooms to be located on the same front, Cavanagh recommended care should be taken to ensure that these rooms did not overlook one another, for he believed it was socially improper that

171 A number of these young architects, trained in Melbourne in the 1880s and early 1890s were to find themselves working in Perth before the end of the decade.

172 M. F. Cavanagh, "Planning", ABCN, 6 August 1892, pp.66-69. Cavanagh's paper was reprinted in full, complete with illustrations, in Australian Building and Construction News, where it would have been widely read. Three years later Cavanagh moved to Perth where he quickly established himself as an influential architect capable of an eclectic range of architectural styles. See "Western Australian Architecture", Western Mail, Christmas, 1897, pp.66-67 for a summary of Cavanagh's first two years of architectural commissions in Western Australia.
anyone in the front rooms should be placed in a position where they could be seen by visitors at the front of the house. This might seem a rather fine point of social etiquette upon which to base architectural design and raises the question as to how many of Cavanagh's South Australian clients would have been concerned with this particular issue? Perhaps in raising the issue Cavanagh was displaying to his peers his own architectural sensitivity to social propriety. It was an issue of some architectural concern, because fourteen years later R. M. Hamilton writing about domestic architecture in Perth was to complain on this very point, stating; "an objectionable feature of the planning of many of these entrances is that the front windows have to be passed by traversing the veranda to arrive at the entrance door." Hamilton, a British architect practising in Perth, was writing for British architects, so perhaps it was an issue of architectural concern within the more formal British middle class society, whereas it was of minor concern to the less formal residents in Perth.

Cavanagh regarded the drawing room as the principal room in the house, the pivot point for the rest of the plan, supporting his opinion with a direct quote from Kerr's book. However at this point his recommendations for the design of this and other rooms began to introduce modifications to the British models, modifications which acknowledged that living conditions in Australia were not the same as in Britain. For example, Cavanagh recommended the drawing room should have a south eastern aspect to ensure adequate penetration of daylight, while the dining room, which in Australia, he suggested, might also frequently function as the breakfast, dining and general living room, needed to be about 6.0 x 4.8 metres, lighted from the end, to allow light along the length of the table, and preferably connected to the kitchen via a serving room. The third public room, Cavanagh suggested, might be a library, smoking, or morning room. On this point, Cavanagh implied that wealthy householders in Australia might not be able to afford, nor even desire to have, separate rooms for every domestic activity, as was recommended by Stevenson and others in the ideal British model.

Cavanagh's choice of plans to illustrate his lecture was directly connected to his recent period of study and work in London. It was indicative of the predominance of English sources of architectural influence still prevalent in Australia. His examples included plans by Norman Shaw, Halsey Ricardo, J. Langham, Viollet-le-Duc, Ernest Newton and Melbourne architects C. D'Ebro and A. C. Walker, together with a couple of his own house plans. It is interesting to compare one of the plans by Newton (Fig.2.18) with one by Cavanagh (Fig.2.19); reverse one plan and they are very similar. Unfortunately the upper floor plans for these houses were not illustrated so it is not possible to ascertain how much further the similarities went.

In response to climatic conditions found in Australia, Cavanagh ignored his British examples and suggested that in the future the atrium of the Pompeiian villa might well be a suitable feature peculiar to Australian domestic architecture. It was an odd suggestion for Cavanagh to make, despite its climatic logic, because it sat so uneasily with the general thrust of everything else he said in his paper. Like so many of the issues covered in Cavanagh's talk, the idea of the atrium served to highlight the dilemma of Australian architects whose thoughts were shaped by British architectural ideals and theories, while they tried to respond to real conditions in Australia. Putting an imported architectural theory into practice in Australia was never easy and it is a problem that continues to plague Australian architects.

174 A. C. Walker and Cavanagh had studied together in London between 1885 and 1888. On their return from London Walker established a practice in Melbourne and Tasmania and Cavanagh practised in Adelaide. Although Walker must have temporarily worked in Adelaide with Cavanagh. 'ACW' was the delineator of a residence at North Adelaide designed by Cavanagh and published in 1892. (BEMJ, 5 March 1892, p.95.) In 1893 Walker published several of his own designs, including a cottage in Camberwell. (ABCN, 10 June 1893, p.245.)

175 The use of Mediterranean architecture, as a model appropriate to the Australian climate, had been raised earlier by John Sulman (ABCN, 14 May 1887), but Cavanagh's specific recommendation anticipates later designs by Sydney Jones, Hardy Wilson and Leslie Wilkinson. There is no evidence to indicate Cavanagh actually attempted to incorporate this idea into his own domestic designs.
Figs. 2.18 & 2.19
Floor plans, E. Newton and M. Cavanagh. Two of several plans used by Cavanagh to illustrate his paper on house design. The strong similarity in the arrangement of various rooms indicates the continuing influence of British architectural and social values on Australian design.
(Source: ABCN, 6 August 1892)
Cavanagh's ideas on architectural design were by no means unique. Two days after his talk in Adelaide, Howard Joseland read a paper on "Domestic Architecture" to the Sydney Architectural Association, in which he focussed more specifically on local architecture and how it might be improved.\(^{176}\) Joseland described the continual use of the standard plan, featuring a central "tunnel shaped passage", typically found in speculative housing, as defective and unimaginative. Such houses, he argued, failed to arrange for the best rooms to take advantage of the aspect and the healthy advantage of sunlight was often lost. He believed that any irregularity which might emerge in the plan from addressing these issues would, in the hands of a skilful architect, produce a pretty feature in elevation.\(^{177}\) He bemoaned the "restless striving after effect with cheap misapplied ornament and a display of ignorant and reckless originality", which he saw around him, but he believed there was evidence of a change for the better. Joseland, had recently returned from Britain, where he had admired the "Art Revival" for its "picturesqueness" and, therefore, he was pleased to see that the influence of Shaw, Stevenson, Nesfield and others was making its presence felt in Australian domestic architecture through the work of Horbury Hunt and others. "I observe a marked development in this direction, not only by our thoughtful architects, but also in the tastes of the public", he said approvingly. It was in this favourable manner that the red brick "Art Revival" style was successfully promoted in Australian architectural journals.

An interesting point in Joseland's paper, presented in Sydney almost simultaneously with Cavanagh's paper in Adelaide, was his similar suggestion on the desirability of a Mediterranean open living space, in this case a semi-enclosed verandah "preferably protected by walls on two or three sides", for which he used the American description of a "piazza". John Sulman supported this idea and had raised the possibility of using Italian architecture as a model for Australian design in 1887 and number

\(^{176}\) H. Joseland, "Domestic Architecture", ABCN, 13 August 1892, pp.79-81.
\(^{177}\) Joseland's favourable comments on the irregular plan appeared to be a shift from his earlier paper in support of the station house, or homestead, as being the best example of an appropriate Australian building type. "Australian Domestic Architecture", ABCN, 20 September 1890, p.217.
of others later raised the issue. The connection between a Mediterranean climate, lifestyle and architecture was being thought about by a number of architects, but it is odd that the ideas were not developed in domestic designs.

While Joseland's talk was more detailed on interior finishes than Cavanagh's, the real interest in both talks lies in the similarities of their general content. Both speakers acknowledged the influence of Stevenson in producing the complex domestic plan, they both made favourable mention of the picturesque irregularity of the work of Norman Shaw and other "Art Revival" architects, they also recognized the potential impact that Australian climatic conditions might have on local design and they both recommended the use of the traditional Australian verandah in a more positive and functional role. Over the next two decades these influences and issues appeared to be the dominant components of domestic design for many Australian architects.

While the majority of architects in Australia, in the 1890s, were content to work within an architectural framework largely fashioned in Britain, but moderated by Australian circumstances, there were a few architectural writers who deplored the continuing use of imported ideas to shape Australian architecture. Their efforts were aimed at producing a specifically Australian response to the problem of Australian architecture. Their arguments in favour of an Australian architecture arose not from any overt nationalistic philosophy, but rather from a strong belief that the factors which governed good design were different.

178 J. Sulman, "An Australian Style", ABCN, 14 May 1887. In 1903, Bishop Riley was quoted as advocating to the architects of the WAIA "the style of architecture to be found in South Europe" WAMBEJ, 13 June 1903, p.18. Michael Cavanagh, the current WAIA president, might well have reinforced his own ideas on the appropriateness of Mediterranean architecture to Bishop Riley. In 1906, Hamilton remarked on how the climate in Perth "is tending to make the people approximate to the Southern European peoples in habit." R. M. Hamilton, "Domestic Architecture in Perth", RIBAJ, Vol.XIV, 10 November 1906, p.21.

179 Cavanagh's convent buildings in Perth and Bunbury feature loggias and arcades, but his domestic designs remained untouched by the idea. Robert Haddon, Australian Architecture (1908) Plate V, Fig.2, p.49, illustrated a plan for a "common room villa", which incorporated an enclosed court, complete with fountain, but other examples of this idea were not evident until the designs of Wilkinson in the 1920s.
in Australia from those in the "home country" and consequently would produce a distinctly Australian design. If there was a nationalistic overtone to the debate it was prompted by an acceptance that the differences in conditions in the Australian states were acceptable and should be positively incorporated into architecture, rather than modified or ignored.

Over the last hundred years this debate has usually focused on two prime issues; the development of appropriate Australian design criteria and the establishment of an Australian architectural identity. Some architects believe the latter issue will naturally follow on from the former, others find it possible to discuss the latter issue without considering the former. In discussion the two issues are often entwined and their distinctions blurred. This was generally not the case in the architectural articles and papers published in the 1890s and 1900s, although later, no doubt, some implicit nationalism may have crept into the argument. The debate emerged primarily from a theoretical position which recognised that conditions in Australia, both climatic and cultural, were distinctive and therefore the architecture should respond accordingly.\textsuperscript{180} A typical article on this approach to the development of a local architecture in Perth was titled "Encourage the use of Local Materials", in which the unnamed author stated that "the architect who can adapt himself quickly to the use of material found in this country, although such material may be strange to him, is of greater use to the building trade than he who copies both the style and material of the country from which he came and where his experience was gained."\textsuperscript{181} In Perth the most readily available building materials were brick, timber, and corrugated iron. In the Fremantle area limestone was readily available and many older houses have limestone walls, rather than brick.

Throughout the 1890s and well into the 1900s journals, including \textit{Art and Architecture} (New South Wales), \textit{Australasian Builder and Contractors}

\textsuperscript{180} Two early promoters of an Australian architecture, John Sulman and James Green, were both newly arrived from England when they first wrote their articles and therefore had not had enough time in the Australia to become strident nationalists.

\textsuperscript{181} "Encourage use of Local Materials", \textit{WAMBEJ}, 26 August 1903, p.18.
News (Victoria), Building and Engineering Journal (New South Wales & Victoria) and W.A. Mining, Building and Engineering Journal (Western Australia), published numerous articles on the definition and development of a domestic architecture appropriate for Australian conditions. There would have been few architects practicing in Australia who had not read an article on the subject. A number of architects took an active role in furthering the debate through writing articles and giving lectures and many younger architects entered design competitions organised by professional journals. When these architects sought work in Perth, in the mid-1890s, they brought this debate with them.\textsuperscript{182}

It could be argued that this architectural debate took place in the eastern states and therefore had little impact on architects and architecture in Perth, but with the increased lines of transcontinental communications and improved shipping people, journals and ideas moved around Australia more freely. The opening of the Fremantle Harbour led to increased travel between the east and west coast, many architects and the general public took advantage of the easier travel to keep in touch with families and ideas.\textsuperscript{183}

Prior to the gold-rush, Perth had neither a large, nor strong, architectural profession, but the sudden arrival of so many architects from the eastern states and overseas resulted in a rapid development of local architectural standards. A more contemporary, more elaborate architecture was demanded by a more sophisticated populace, it was designed by trained architectural professionals and built by a more skilful labour force. Australian architecture, particularly domestic architecture, did not die in the economic depression in the eastern states in the 1890s; much of it continued to flourish, but in Perth.

\textsuperscript{182} Architects M. Cavanagh, R. Haddon and A. Rieusset had been leaders in the architectural debate in the eastern states, prior to moving to Perth in the late 1890s.

\textsuperscript{183} WAMBEJ, 9 March 1907 p.18 refers to the annual exodus of "the prosperous West Australian taking his family East for a few months." Later, it was noted that F. W. Burwell has just commenced his visit to Melbourne, while J. H. Eales and E. E. Giles have just returned from a visit to the Eastern States. WAMBEJ, 27 April 1907, p.19
2.9 Housing

Prior to 1890 there were few architects in private practice in Perth. There was a small number of architects employed in the Public Works Department, but their work was confined to official buildings. Large commercial commissions, particularly bank buildings, were frequently given to Melbourne architectural firms to design, a procedure which established useful business connections which were taken up in the 1890s, but had little influence on the design of housing in the 1880s.184 Generally, housing in Perth, before 1890, was the product of vernacular design, showing little evidence of contemporary architectural theory and little stylistic detailing, but this situation was to change in the 1890s.

The possibility of finding work in Western Australia attracted an increasing number of architects in the 1890s. The postal directories indicate the increasing number of architects listed in practice in Western Australia, reaching its peak in 1898 when seventy eight architectural firms were listed, including the names of ninety one individual architects, but the real number of architects in the state was even greater. The postal directory listings included only the principals of firms, not their employees, and did not include the large number of architects employed by the various government departments. Of the known architects in Western Australia in 1898 at least sixty had practiced in Melbourne in the previous decade. Typical of these Melbourne architects was young Charles Heath, lately of the practice Blackburn & Heath, who "sailed for the West in search of fresh fields and more remunerative occupation."185 The RVIA membership lists of the late 1890s have numerous notations of "ceased to be member" and changes of addresses as many members migrated to Western Australia. Even the RVIA Secretary, George Allan, resigned in 1895 to take up a position as an assistant engineer with the Water Supply branch of the West Australian Public Works.186

184 George Inskip, a prominent Melbourne architect, had first come to Perth to supervise the construction of St George's Cathedral, but later his firm designed banking offices in Western Australia for the Union Bank of Australia.
185 BEMJ, 1 February 1896, p.2.
With so many architects in Perth, many of whom had known each other in Victoria, it was not long before they established a West Australian Institute of Architects (WAIA). The inaugural meeting of members was on 26 May, 1896, George Temple Poole was elected president, Michael Cavanagh the vice-president and John Talbot Hobbs the secretary. The role of the WAIA was to promote the professional reputation and protect the employment of architects. The necessity for this action was evident into the following year when the WAIA complained to the government about government architects undertaking private commissions in competition with architects in private practice. The WAIA believed government architects undertook this private work because they were poorly paid. Whatever the reasons, the Institute believed public servants should not undertake private commissions, particularly as the momentum of the building boom slowed and competition for architectural commissions increased.187

During the property boom of the 1880s Melbourne's architects and builders had the opportunity to develop skills and crafts to a level previously unknown in Australia.188 Extravagantly ornate mansions such as "Ontario", "Raheen" and "Wardlow" still stand as proud testimony to these skills and crafts; skills and crafts which were to filter down, in more modest forms, into the 40,000 houses of limited means built in Melbourne between 1881 and 1891.189 Simultaneously the building industry had developed into a specialised work force capable of providing the skilled labour and the range of building products necessary to tackle such large and sophisticated building projects. By 1890 the building industry in Perth had not had the opportunity to develop to this level of performance, but the demands of the property boom in Perth and the presence of so many architects, builders, artisans and craftsmen with previous experience in Melbourne meant that architecture in Perth was to improve significantly.

187 Western Mail, 1 October 1897, p.9. Government spending on public works slowed down in 1897-8 and many architects in the Public Works Department were sacked, or resigned. Blue Books (1898-9).
188 S. Forge, Victorian Splendour.
189 Victorian Census (1891)
Although there was an increasing number of architects in Western Australia many of them worked in the goldfield towns. The architects in Fremantle and Perth were heavily involved designing projects associated with the gold-rush, banks, commercial offices, hotels, shops and warehouses. These designs were frequently and favourably compared to buildings in Melbourne, which reassured both clients and populace that the designs were the latest in architectural style. A building in Fremantle's High Street was described as having an elevation "designed in a conventional manner similar to that so much in vogue in Melbourne during the great boom and should therefore be of the most modern and approved style."\(^{190}\) Given the circumstances the houses architects designed in Perth were by our standards unusually varied. They included small speculative row houses in East Perth, modest villas in Leederville, impressive two storey town houses in Adelaide Terrace and Howick (East Hay) Street, Perth and grand suburban mansions in Peppermint Grove.

While the poorest of the vernacular houses still retained their simple rectilinear form, full width verandah and hipped roof, the houses designed by architects favoured the use of the projecting front room, with gabled roof, and the short verandah set within the return. The use of crisp Italianate stucco detailing gave these houses a sharper, more precise external appearance, in comparison with their softer, slightly ragged, looking colonial predecessors. A few of the more elaborate townhouses were totally rendered with imitation ashlar coursing and featured heavy stucco architraves, brackets and moulded decoration in a manner similar to the Italianate architecture of Melbourne a decade earlier (Fig.2.20), but generally the popularity of the Queen Anne Revival architecture in Perth was evident in the pervasive use of the combination of tuckpointed red brickwork and light coloured stucco banding which emphasised the window and door openings. (Fig.2.21) Although the Italianate details were similar to those used previously in Melbourne their use in combination with red brickwork in Perth never achieved the same level of cold formality, nor exuberant vulgarity; there was a remarkable degree of restraint exhibited in the decoration of the houses in Perth. Clients, whether wealthy or not, imposed economic constraints

\(^{190}\) *West Australian*, 20 October 1895.
Fig. 2.20
Illustration of an Italianate villa, Toorak, 1890. The house was designed by G McMullen, who later moved to Perth.
(Source: ABCN, 30 August 1890)

Fig. 2.21
91 Parry Street, East Perth. An Italianate villa, built in 1897, the brickwork was tuckpointed rather than rendered.
on their architects, spending much less on their houses than their counterparts in other capitals.\textsuperscript{191} It is somewhat ironic that some of the smaller, inexpensive, houses in Highgate and Northbridge incorporate more bold decorative elements than the larger houses. Unfortunately very few of these heavily Italianate house are extant and the few remaining have generally been modified, but from viewing a number of them it is possible to visualise their original form and details. Examples of these houses are to be found in central Perth, at 120 and 122 Aberdeen Street (1894) (Fig.2.22), 54-58 Goderich Street (1896), Hay Street East, 185 Stirling Street (Fig.2.23) and Adelaide Terrace. (Fig.2.24) But many of the newly arrived architects had already shifted away from the Italianate style and in the mid-1890s were designing houses in Melbourne and elsewhere in a more picturesque style, sometimes described as Queen Anne Revival or Art Revival and thus some of the larger, more expensive, houses in Perth illustrate this shift in style. (Fig.2.25) The 1890s was a period of architectural transition, noted for its eclecticism, and commercial and domestic architecture in Perth reflected these changes. No single architectural style dominated.

In 1897 William Salway designed "Martalup", for prominent Perth citizen George Leake. It was an impressive mansion sited between the large residences of leading Perth business and political identities Messrs J. W. Hackett and R. Sholl, at the top (north western) end of St George's Terrace. (At the time all three men were Members of the Legislative Assembly.) The mansion was quite unlike Salway's design for the Burrows residence in St Kilda (Fig.2.26) and its imitators in Adelaide Terrace. The base was of Cottesloe stone and the two upper storeys were of tuckpointed brickwork, crowned with a terra-cotta tiled roof. The kitchen, scullery, wash-house and servants' quarters were located in the basement, drawing and adjoining dining rooms, morning room and study on the ground floor and best bedroom, with dressing and bathroom ensuite, four bedrooms, linen room and maid's closet on the upper floor.

\textsuperscript{191} It is possible to speculate that the reluctance to spend lavish amounts on houses in Perth was related to a fear that the gold boom might not last. The few people who did flaunt their wealth, such as W. G. Brookman, tended to be regarded with a degree of derision. In Melbourne there was evident restraint in the Art Revival red brick architecture, it was a sobering period after their building boom. Equally, it might be argued that there was generally less wealth in Perth and therefore less to expend on opulent housing.
Fig. 2.22
122 Aberdeen Street, Northbridge. Details on a rendered Italianate villa, built circa 1895. 120 Aberdeen Street was of similar design, but has been modified.

Fig. 2.23
185 Stirling Street, Northbridge. The house features elaborate Italianate details, combined with tuckpointed brickwork, c.1895. A similar house was built nearby, at 48 Newcastle Street, Northbridge.
Fig. 2.24
259 Adelaide Terrace, Perth. A two storey rendered Italianate townhouse c.1890, it was built for Stephen Parker in the constrained formal tradition of earlier Melbourne houses. (see Fig. 2.26)

Fig. 2.25
292 Hay Street, East Perth. An informally picturesque Queen Anne revival townhouse designed by J Talbot Hobbs in 1895, at a time when many of city's wealthy families still lived in town.
Fig. 2.26
Burrows Residence, St Kilda, Melbourne, 1860. William Salway’s reputation for designing large impressive buildings preceded his arrival in Perth in 1897. (Source: ABCiV, 1 July 1880)
The east and south sides of the house were surrounded by a verandah and balcony 2.7 metres wide. The style was described as "Moorish with a free use of stained glass in the windows and fanlights."\textsuperscript{192} Here was evidence that new money from the gold-rush was available to be spent on large and lavish houses in Perth; using the designs of well known architects and the skills of trained craftsmen. The house cost more than £4,000, which at the time was a princely sum for a residence in Perth, although many grand houses in Melbourne had cost ten times that amount.\textsuperscript{193} Salway had designed a number of impressive houses in Melbourne, including "Knowsley" ("Raheen") in Studley Park (1883-85) in a style described by Miles Lewis as "renaissance red brick". He was also credited by Wunderlich with the first use of pressed metal ceilings in Melbourne in 1889, a material that was to appear increasingly in Perth in the 1890s.\textsuperscript{194} Salway was listed in the WA Government’s civil service list as having been appointed Chief Assistant Architect in April 1896, on an annual salary of £500, but it also notes he resigned in November 1896. Whether he actually took up the appointment is a moot point; the \textit{West Australian} welcomed Salway’s arrival in Perth in January 1897, stating "there should be plenty of room for a gentleman of Mr Salway’s standing and ability" and in July Melbourne’s \textit{BEMJ} reported on his range of architectural commissions in Perth.\textsuperscript{195}

The involvement of architects in the design of housing at the lower end of the market is an interesting aspect of the development of housing in this period. In the boom period it might be supposed that architects were engaged with more large and important commercial commissions, but tender notices indicate a number of architects were engaged in designing small speculative and rental terraces, row houses and semi-detached houses and even housing estates. In 1897 the Colonial Finance Corporation commissioned an architect (unknown) to design "Baker’s Terrace", which with fifteen houses is the largest extant terrace in Perth, together with twenty nine pairs of semi-detached houses on an estate in

\textsuperscript{192} \textit{BEMJ}, 10 July 1897, p.195.  
\textsuperscript{193} S. Forge, \textit{Victorian Splendour}, p.28. Family fortunes in Perth were modest by comparison with the millionaires of Melbourne. C. T. Stannage, \textit{People of Perth}, p.219, states that George Shenton, one of wealthiest of the "six" families, left an estate of only £200,000  
\textsuperscript{194} \textit{ABCN}, 2 August 1890, p.280.  
\textsuperscript{195} \textit{West Australian}, 30 July 1887, p.4.
Fig. 2.27
13, 15 & 17 Brookman Street, Northbridge. In 1897 the Colonial Finance Corporation, a London based investment company, built twenty nine pairs of semi-detached villas on this estate.

Fig. 2.28
35 Wade St, Highgate. Although it is a detached house, it is of similar design to the semi-detached houses in Brookman and Moir Streets. It was built by contractor M. L. Lloyd in 1908. Numerous houses in Highgate share this design.
Fig.2.29
Plan, 25-27 Brookman Street, Northbridge, 1897.
Fig. 2.30
Elevation, 25-27 Brookman Street, Northbridge, 1897. It illustrates the details of all the semi-detached houses in this development.
(Source: P. Turner, Moir and Brookman Streets; An Architectural and Historical Record, B.Arch thesis, Curtin University of Technology, 1990.)
Northbridge. (Figs.2.27, 2.28, 2.29 & 2.30) Michael Cavanagh was reported in the press as having designed twenty houses in Highgate Hill for the Catholic Church and in February 1898 Henderson & Jefferis advertised, on behalf of G. W. Brookman, for tenders to build 54 houses on a South Perth estate, but this last project was not built.\textsuperscript{196} Architects such as Thomas Anthoness, Charles Connop and Louis Cumpston, who had had thriving architectural practices designing inexpensive housing in Melbourne, designed similar housing in East Perth, Northbridge and the less expensive parts of West Perth.\textsuperscript{197} Builders and owner-builders busily repeated examples of popular housing in Melbourne. "Visitor" provided an exuberant description of housing in East Perth, "here are all the signs of progress, on every hand is the sound of humming saw and the music of the hammer on the (corrugated) iron roofs, which spread themselves like a silver mantle in all directions." However, "Visitor" tempered his enthusiasm with the observation that "the houses are being run up anyhow, anywhere, without the slightest regard to situation, accommodation, ventilation or sanitation." Another writer described the building boom in Perth as very similar to the worst in Melbourne in its building boom.\textsuperscript{198} As was the case in Melbourne, amidst the "jerry-buildings" in Perth, were a number of elaborately decorated small houses and terraces. Stucco swags and garlands, balustered parapets, urns and balls decorated the facades of small row houses in Church and Money Streets, Northbridge (Figs.2.31 & 2.32) and Mary Street, Highgate, (Figs.2.33 & 2.34), while polychromatic brickwork enlivened chimneys in small semi-detached houses of Harwood Place, West Perth, and the eastern end of Wellington Street. These elaborate decorative flourishes were more the exception than the rule. Many a small house was enlivened solely by the addition of a frieze of cast iron lacework to the front verandah.

Despite the earlier comment on the lack of a large body of high density inner city housing, there was much more inner city row, semi-detached and terrace housing built in Perth than might be concluded from the extant buildings. Between 1895 and 1905 two storey terrace housing, of ten or twelve rooms, was built in Adelaide Terrace and Milligan, Irwin

\textsuperscript{196} \textit{Western Mail}, Christmas 1897, p.67 and \textit{West Australian}, 26 February 1898, p.2. A search of church records has so far failed to trace the 20 houses.
\textsuperscript{197} See Miles Lewis, \textit{The Australian Architectural Index}.
\textsuperscript{198} \textit{Western Mail}, 19 July 1895, p.10.
Figs. 2.31 & 2.32
23-25 Money Street, Northbridge, 1902, and 16, 18 & 20 Church Street, Northbridge, 1898. Examples of the elaborate stucco details on some facades of small houses.
Figs. 2.33 & 2.34
21 Hardy Street, Prahran, 1888, and 70 Mary Street, Highgate, 1898. A number of small houses in the inner areas of Perth followed the elaborately decorative tradition of the Melbourne boom period.
and Howick (East Hay) Streets. (At the time these were highly desirable residential streets.) Most of this housing together with the smaller, five or six roomed, terrace houses in Golding, Dyer, Brisbane and Beaufort Streets and the less salubrious row houses in Royal, Claisebrook, Goderich and Wellington Streets, were gradually demolished as the central city underwent another period of large scale redevelopment in the 1960s.199

At the peak of the boom, when a four roomed cottage might rent for as much as thirty five shillings per week, but cost no more than £150 to build, many property speculators built terrace housing or small cottages in the inner city areas.200 A small number of builders and investors built pockets of semi-detached houses in the surrounding suburbs of Highgate, Leederville, North Perth and Subiaco, anticipating the establishment of densely built up neighbourhoods similar to the inner city areas of Melbourne and Sydney. It did not eventuate and this left a few semi-detached houses isolated amongst detached suburban villas. (Fig.2.35) Overall, the total number of terrace, row and semi-detached housing built in Perth was relatively small in comparison with similar housing in other major Australian cities. By the late 1890s terraces and row housing was widely regarded throughout Australia as being less socially desirable than detached suburban housing. In Perth the availability of large areas of inexpensive residential land in close proximity to the city centre greatly reduced the financial incentives to build high density housing. (Fig.2.36) Perth had been, by tradition, a suburban town and the small amount of high density housing built in this period can be viewed as an aberration, caused by the intense demands for housing during the height of the gold-rush.

In the suburbs of Perth, rather than build terrace or row housing, artisans and labourers built themselves detached brick or weatherboard cottages "of a useful, rather than ornamental type, suitable to the requirements of a working population" on small individual blocks. The

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199 "The Rapid Advancement of Perth", *Western Mail*, 28 January 1898, p.8. The article includes an extensive list of buildings (with owners) granted building approval by the PCC Building Surveyor in 1897.

200 PD WA 12 1898 1241.
Fig. 2.35
Plan, 193-5 Loftus Street, Leederville, 1904. Designed by Percy Clark, it is a late example of the one room plus hall, narrow, semi-detached house, popular in the inner areas of Perth during the goldboom period. It is unusual in this very suburban location.
Railway Station, Perth, c.1895. A lithograph, produced for C. Y. O'Connor, of buildings in the vicinity of Perth railway station, coincidentally shows the low intensity of commercial and residential development north of the railway line. Roe and James Streets, Northbridge, had few houses and what were there are modest in size and rectangular in form. Perth was still little more than a large town.
(Source: Battye Library)

Fig.2.36

The typical plan of these houses featured two rooms either side of a central passage, similar to the houses in Melbourne described by Twopeny a decade previously. One noticeable feature of the houses in Subiaco was the predominant use of the zero lot line; building the house on one side boundary. This allowed the builder to plan two reasonable size rooms plus a hall across the width of the site and still have a side access to the back of the house. Whether the land was tightly subdivided in anticipation of builders constructing semi-detached houses, or builders designed the houses to suit the width of the site, is not clear, but while these houses, in plan and appearance, might resemble one half of a semi-detached pair they were not located on site to be seen as such. Many owners and builders deliberately ignored the existing house on the adjacent lot, either building on the opposite side of the lot, or emphasising the separation of the two party walls. These houses were sited so as to be recognised as individual houses, for house sharing a common wall was socially less desirable.
For many less fortunate people in Perth the immediate need for housing meant neither brick nor weatherboard, but rather galvanised iron sheeting, or even hessian. These houses were not confined to any one suburb, but were scattered across the newer suburbs. The houses were not very fireproof, judging from press reports. In 1897 a hessian house in the Rosalie Estate, Subiaco caught fire\textsuperscript{201}; in Charles Street, West Perth, an eight room house made of corrugated iron, lined with hessian and matchwood, belonging to Mr. Smith caught fire\textsuperscript{202}; and in Mary Street, Highgate, Mr. & Mrs. Bewster's three roomed galvanised iron house was burnt out.\textsuperscript{203} These were the unlucky ones, but many others were able to eventually replace the hessian and the galvanised iron with a house of timber or preferably brick construction.

In 1896 the Perth City Council approved the construction of 1,188 buildings with an average size of 150 square metres, in 1897 that figure was up to 1,245 buildings of 149 square metres and at the end of the year the City Engineer estimated there were 5,500 buildings in Perth; so great was the building boom that the number of buildings in the Perth municipality doubled between mid-1894 and the end of 1897.\textsuperscript{204} These figures were exclusive of the new buildings in Fremantle, Claremont, Leederville, South Perth, Subiaco and Victoria Park. Housing in Perth in 1897 accounted for 1,245 new buildings at a cost of over £500,000. A journalist wrote enthusiastically in the \textit{Western Mail} that amongst these buildings were "innumerable residences of a character which will compare favourably with any to be found elsewhere in the Australian group. The speedy erection of numerous terraces of houses, cottages and residences of a more spacious character has been especially gratifying. It has brought down rents, hither to so excessive, to a more equitable level."\textsuperscript{205} The self congratulatory tone was not out of order, it was a remarkable amount of building, undertaken in a short period.

\begin{flushright}
\textsuperscript{201} \textit{Western Mail}, 5 February 1897, p.9. \\
\textsuperscript{202} \textit{Western Mail}, 27 September 1897, p.16. \\
\textsuperscript{203} \textit{Western Mail}, 10 December 1897, p.42. \\
\textsuperscript{204} "The Building Trade in Perth", \textit{Western Mail}, 14 January 1898, p.38. \\
\textsuperscript{205} "The Rapid Advancement of Perth", \textit{Western Mail}, 28 January 1898, p.8. \\
\end{flushright}
While it is true that in comparison with contemporary housing in Melbourne or Sydney there was nothing particularly new nor innovative about the housing built in Perth in the 1890s, having so much housing built, so quickly, was in itself a major achievement and the standard of the houses was both stylistically and structurally a marked improvement on the previous standard in Perth. At this stage, given the pressures of a building boom and the need to provide large numbers of houses quickly, there was little reason to expect the housing design to be innovative. That might occur once the pressure died down. What is clear, is how architectural and social trends apparent in the eastern states of Australia were transferred by the migrants to Perth and influenced the preferred model of housing as the city rapidly expanded.

2.10 Interior Design

In the Australian colonies, in the late nineteenth century, there was a strong tradition in buying furniture and other household items from catalogues. Large retail emporia were a new urban phenomenon, but they relied heavily on catalogues to promote their vast range of goods. The rapid growth in Perth housing meant a similar rapid growth in the purchase of home furnishings and several astute retailers took advantage of the situation.

In 1894 Mr. Bickford, manager of a large Melbourne retail store, purchased a store in Perth and established Bickford’s Complete Housing Emporium. In full page advertisements in the *West Australian*, he offered to completely furnish a three roomed house (sitting or dining room, bedroom and kitchen) for as little as £40, while a five roomed house (sitting or dining room, best bedroom, second bedroom, servant’s bedroom and kitchen) could be completely fitted out for £70. (Fig. 2.37) Messrs Foy & Gibsons, owners of a large department store in Collingwood, recognised an opportunity to shift their slow selling goods in Melbourne through the opening of a store in Perth. In 1895 they visited Perth and decided the local market was strong enough to warrant renting a temporary premises in Murray Street, until such time as they could build a store of their own. Their managers soon reported back to Melbourne of having no problems
**BICKFORD’S COMPLETE HOUSE FURNISHING EMPORIUM.**

<table>
<thead>
<tr>
<th>THREE-ROOMED HOUSE</th>
<th>FOUR-ROOMED HOUSE</th>
<th>FIVE-ROOMED HOUSE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Furnished Complete for 100</td>
<td>Furnished Complete for 150</td>
<td>Furnished Complete for 200</td>
</tr>
</tbody>
</table>

**LIST OF ARTICLES SUPPLIED.**

### THREE-ROOMED HOUSE
- Set in Ostrich or Haircloth, comprising:
  - Couch
  - Six Spring-bottom Chairs
  - Chairstools
  - Dining Table
  - Table Cover
  - Kid Leatherwork or Laminated
  - Footstool and Set Place Irons
  - Cloth
  - Pair Tables
  - Cushion Pole, with rings and brackets
  - Pair of Loop Curtains.

### FOUR-ROOMED HOUSE
- Set, comprising:
  - Couch
  - Gentleman’s Easy Chair
  - Six Spring-bottomed Chairs, covered in haircloth or ostrich
  - Chairmasses
  - Round Table
  - Table Cover
  - Carpet and Linoleum
  - Pincers and Set of Steel Irons
  - Gold Overmantel
  - Cushion Pole, with rings and brackets, etc., complete
  - Pair Loop Curtains.

### RETURN OF CUSTOMS REVENUE.

The following is a return of Customs revenue for September of this year, the year.

### RETURN OF CUSTOMS REVENUE.

**Fig.2.37**

Advertisement for Bickford’s Complete House Emporium, 1895. Bickford’s was a Melbourne retailer, which opened a branch in Perth.

(Source: *West Australian*, 12 October 1895)
selling their merchandise and a large Foy and Gibson store was built in Hay Street in the following year. In 1896, amidst much fanfare, the Boan Brothers opened their emporium, offering a ready availability of goods from the world’s markets. Together with Sandover’s Store, these retailers offered the residents of Perth a range of contemporary household furnishings and decorative items quite unlike anything previously available. Mrs. Millett, the parson’s wife, would have been quite overwhelmed by the choice that was now available and at competitive prices, too. The newspapers and journals were full of advertisements for all manner of domestic furnishings, indicating that in Perth with so much money flowing through the local economy almost anything was now available from anywhere, at a price.

2.11 Summary

An expansion of suburban, low density, housing stock relies on the availability of cheap land, ease of access to employment (usually relying on the availability of inexpensive public transport) and the availability of inexpensive buildings (ie. cheap materials and labour). Topographical circumstances in Perth also encouraged suburban growth. The Swan River created a natural barrier to the city’s expansion in the south and east, Mount Eliza and Kings Park similarly hindered expansion to the west and the railway line formed both a physical and psychological barrier to expansion in the north. There was an implicit sense of containment within the central city. Much of the traditional residential land in the centre of the city now had to compete with an increasing number of commercial uses. To be financially viable for residential use the land was subdivided and the housing density increased, which made the housing attractive to landlords and speculators, but not to private home owners. This encouraged the home owners to look further afield for suitable residential land, but they did not have to go to far. Perth town site was so underdeveloped that there was plenty of land suitable for residential purposes within easy walking distance of the city centre. Land in Highgate, Northbridge, Victoria Park and West Perth was

206 S. W. Davies, Foy’s Saga, p.50. Cavanagh & Cavanagh designed the Foy & Gibson store (1897) for the Hay Street site.
quickly subdivided into residential lots. Consequently, despite a brief period of intense redevelopment of housing close to the city, Perth did not develop the central mass of high density inner city housing, surrounded by outer layers of suburban housing, that typifies other major Australian cities. In Perth suburban housing is situated within 1.6 kilometres of the city centre.

The rapid urbanization of Perth in the mid-1890s was not due to the drift of a rural population to an urban environment, as was the case in the industrialised European nations, but rather a huge migration of a largely urban population from large urban centres in the eastern states of Australia and Britain. These immigrants sought a share of the financial benefits emanating from the rich goldfields. Their sudden arrival had a tremendous impact in the colony, especially in Perth, where the demand for housing prompted large scale speculative subdivisions of land into suburban residential lots, accompanied by a building boom.

Initially the pressures and demands of "boomtime" conditions were such that Perth City Council and the colonial government struggled to exercise any control over land subdivision and standards of building construction. However, several epidemics of cholera and typhus prompted the need for government legislation to outlaw insanitary living conditions and shoddy building practices. With the introduction of building by-laws and health regulations state and local governments were able to regain control of the situation and set minimum standards for building and land subdivision, which were more attuned to the values of their rapidly growing suburban society. In achieving these measures government was able to ensure that future growth, in a period of consolidation, would result in healthier and more amenable housing, while maintaining the value of suburban property.

The immigrants were people who knew what they could expect of a modern city, they were not beholden to the traditional colonial power brokers in Perth and felt no compunction in using their newly gained
political power to achieve their desired results. They readily pressured government, state and local, to provide the necessary infrastructure and services to establish and support an amenable suburban lifestyle. With increased communications between Western Australia and the eastern states of Australia and, in particular, so many of the immigrants coming from Victoria, it was not surprising that Melbourne should become the metropolitan focus and the benchmark against which the standard of housing and public services in Perth were measured.

There was a considerable amount of housing built in the existing inner city area during the boom period, including many small groups of row, semi-detached and terrace housing. However, the availability of relatively inexpensive and larger residential lots, within easy access of the city centre, enabled the majority of the population to pursue the popular ideal of a suburban lifestyle. Consequently, during this period of rapid expansion in Perth the earlier, colonial, pattern of suburban development was reinforced and the detached suburban house confirmed as the preferred housing model.

The collapse of the building industry in Melbourne followed by a building boom in Perth enticed many architects, building manufacturers, suppliers and contractors, craftsmen and artisans to seek employment in Perth and the goldfields. Their participation in the building boom encouraged the development of an organised building industry and markedly improved the quality of building. The engagement of trained architects, employment of skilled building tradesmen and use of a wide range of building materials produced houses displaying obvious concern for architectural style; both Italianate and Queen Anne, flamboyant and restrained. As a consequence of several years of changes in the economy and society and dramatic growth domestic architecture in Perth entered a new phase of development.
3. CONSOLIDATION: 1897-1905

3.0 Introduction

The previous five years of development in Perth had been hectic; boomtime conditions had generated their own momentum and government, local and state, was barely able to keep abreast of issues, let alone direct them. 1896 marked the peak year of annual immigration and while the figures in the following two years were still high they gradually declined to a more manageable number. The pressure on all aspects of life in Perth, including housing, was reduced; there was time to consolidate the gains, to move forward, but to manage the momentum more carefully. Economic growth in Western Australia, while high compared to the rest of the country, was now at a more manageable pace. In 1898 the Western Mail commenting on "the Future of Western Australia" concluded the colony had made sound advancement, but at last, after the heady years, the "gambling fever is abating."

Three years later May Vivienne wrote; "Perth has now settled down, whereas a few years ago when the gold fever was at its height the state of the town was very different. Then the excitement was tremendous." Boomtime euphoria gave way to a quieter optimism and the housing industry was able to shift from focusing on the demands for a quantity of houses to demands for quality in houses.

In the goldfields changes occurred in mining methods, which altered employment patterns and provoked shifts in the location of the state's population. By 1903 the mining industry had shifted from alluvial mining to underground mining; this method required the employment of professional miners. Prospectors, finding few alluvial pickings left in the goldfields, were forced to seek employment elsewhere. While some workers from the goldfields took up the government's inducements to farm, many others gravitated to Perth where job opportunities for both skilled and unskilled workers were more plentiful. It was a time when the itinerant population had to make some hard decisions; settle down

1 "The Future of Western Australia", Western Mail, 14 January 1898, p.12.
2 May Vivienne, Travels in Western Australia, 2nd ed., 1902, p.39.
and reap the long term benefits of gold mining and a relatively sound economy in Western Australia, or move back to the still depressed state of affairs in the east. While many "gold-boomers" drifted back to the eastern states, many more settled in Western Australia.

Architects and builders in Western Australia found themselves in a similar position. As the economy shifted in its emphasis, so did the demand and location for new architectural commissions and buildings. Architectural work in the goldfields tapered off and the construction of government funded buildings was cut back, leaving many architects in the goldfields and the Public Works Department without further work. Commissions continued to flow in the expanding metropolitan area, but even in Perth architects and builders found the building industry less buoyant than it was during the boom years. Many architects established their practice in the city, some found employment as building engineers, inspectors and surveyors with local councils and a number of unemployed architects moved back to the eastern states. By 1903 the local building journal estimated there were "nearly sixty persons practising as architects and the government departments employ a couple of dozen more", but these figures were well down on the one hundred and more architects who had been working in Western Australia at the height of the boom.3

While the demand for commercial buildings offered steady commissions it was the increased demand from a population in Perth needing to be housed which kept the remaining architects busy. In his report on events of 1902 the Perth City Building Surveyor, Edward Gjedsted, reported that "comparatively speaking very little speculative building has been carried out and that the great majority of new dwelling-houses have been for people who are residing in them personally."4 In 1904 the editor of the local building journal could still confidently write, "Perth, Fremantle and the suburbs are in no way overbuilt and with the large numbers of

3 WAMBEJ, 3 January 1903, p.17 and Wise's Postal Directory (1903). WA Blue Book (1897-1900) indicate many government architects were retired, retrenched or sacked between 1897 and 1899.
4 "Progress of Perth", West Australian, 14 February 1903, p.9.
adults who are desirous of having homes of their own the building trade should support a very large number of our population for years to come".\(^5\) It was time to consolidate the progress made in Perth in the heady days of the gold boom.

3.1 Population Growth

The high level of annual immigration to Western Australia peaked in 1896. While the number of arrivals continued to be phenomenally high the number of departures also rose rapidly, so that the nett gain in immigrants declined. It was an uneven fall off in numbers; in 1899 there was actually a loss recorded in the migrant population, but in the following year there was a gain of nearly 6,000 people, followed by even higher gains in 1901 and 1902. In 1903 R. M. Hamilton described Perth as "the most flourishing town in the young Commonwealth", which was hardly surprising given that the population of the state had quadrupled in the previous decade.\(^6\) Economic conditions in the rest of Australia were far from buoyant and Perth still offered both skilled and unskilled workers the prospect of a prosperous future. Politicians, through various housing and land settlement policies, encouraged immigrant workers to send for their families and single men were exhorted by both religious and civic leaders to marry, buy a house and settle down. The moral, political and social imperatives coincided; society would be generally better off with a stable population of industrious home owners.

Initially a large percentage of "gold-boomers" came to Western Australia on a temporary basis, hoping to strike it rich on the goldfields, or at least to find employment in subsidiary businesses before returning home. Their families stayed behind in the eastern states. The consequence of this initial migration pattern was evident in the startling disparity between the sexes in the 1891 census figures. Of the eligible unmarried population in Western Australia in 1891 there were 10,126 males (fourteen years and over) and 1,990 females (twelve years and over), a

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\(^5\) WAMBEJ, 9 July 1904, p.10.
ratio of 5:1 which escalated alarmingly over the next six years. By 1900, as the euphoria surrounding the gold-rush subsided and the gold industry switched from alluvial to pit mining many of the "boomers" were convinced that Western Australia's gold based economy had a long term future; they made the decision to settle in Western Australia and subsequently were joined by their families. In 1898 parliamentarian William George, the member for Murray, summarised the situation: "men come first to spy out the land and see if it is good enough, and when they feel that they can ensure constant employment, they soon bring their wives and families over." This trend in family settlement was reflected in the increase in females and children in the state in the latter part of the decade, resulting in a more socially desirable sexual balance in the population. Moreover the gold boom and its associated population increase had altered the age structure of the state's population. In 1891 45% of the population was under twenty-one years and 45% was aged between twenty-one and fifty years. In 1901 only 38% was under twenty-one years, but 54% were between twenty-one and fifty years old. More importantly the largest quinquennial group was in the twenty-five to twenty-nine year bracket, followed by the thirty to thirty-four year group. Together these two groups accounted for 25% of the population, providing Western Australia with a young population; the average age of a male was twenty-eight years, the average for a female was twenty-three years and the overall average age of the state's population was twenty-six years. This was a population profile strongly suited to future family growth. The steady increase in marriages, rising from 633 marriages in 1895 to 1,821 in 1901, and the growth of young families produced a corresponding increased demand for housing. In this period of economic consolidation, with Perth having a more moderate increase in immigrants, the demand for housing continued to grow but without the earlier intense pressure it was more manageable and an expanding housing industry was more capable of adequately responding to it.

7 F. Hart, Western Australia in 1893, p.151.
8 PD WA 12 1898 1240. Despite the perceived attractions of the government's rural land settlement policy in 1901 there were only 2,405 applicants and in 1902, although there was an increase of almost 15,000 immigrants, land settlement attracted only 3,026 applicants. The urban centres of the state were more attractive options for workers and their families. West Australian, 1 January 1903, p.4.
9 C. T. Stannage, A New History of Western Australia p.234.
10 1901 Census figures as listed in WA Yearbook (1901-1903), pp.16-17.
3.2 Suburban Expansion

In the second half of the nineteenth century, the competition for central city land intensified as commercial, retail and industrial activities expanded. Uncoordinated urban expansion produced congestion and overcrowding and gradually the central city was regarded as a less than desirable place in which to live. Proximity to city activities was replaced by distance from the workplace as a criterion for residential location. Land on the city outskirts became more attractive for residential use when and where it became accessible; for the wealthy who could afford a horse and carriage the suburbs were accessible by the provision of roads, for the less wealthy it required the provision of affordable public transport; trains, trams and buses, but for the poor it was a matter of walking distance. The pattern of suburban residential expansion occurred in Melbourne in the 1880s and it occurred in Perth in the late 1890s. The vast number of immigrants to Perth in this period created its own pressure on the expansion of housing into areas outside the central city, and in the late 1890s the growth of expensive housing in the suburbs of Claremont, Peppermint Grove and West Perth was indicative of Perth's wealthy citizens fleeing the intrusion of commercial and retail developments on sites adjacent to their townhouses. Along St George's Terrace residences were increasingly replaced by banks and commercial offices. In late 1899, the introduction of the noisy tram service made Howick (East Hay) Street a less than desirable address for its wealthy residents. Gradually wealthy town dwellers sought seclusion in the new suburbs.

For many years living in a solely residential suburb had been regarded as an attractive middle class social objective, an alternative to the convenience of living in the central city, therefore the increased commercial and retail competition for central city sites served more to hasten an existing movement to the suburbs rather than create one. The poorer residents of Perth, already living in overcrowded conditions, now

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11 In some large European cities the development of exclusively residential neighbourhoods, for example Belgravia and South Kensington in London, was a means to mitigate a number of the problems associated with city living.
12 J. W. McCarty & C. B. Schedvin (eds), Urbanisation in Australia, p.27.
13 J. W. McCarty & C. B. Schedvin (eds), Urbanisation in Australia, p.72.
had to contend with the noise, stench and smoke from noxious industries adjacent to their housing.14 Many people in Perth having experienced similar housing conditions in the older inner city areas of Melbourne, Sydney or British cities hoped to escape from such living conditions, therefore they too had reason to want to live in a more amenable suburban environment. For rich and poor alike housing located away from the increasingly busy city centre became a more attractive goal and this promoted the growth of suburbs surrounding the old Perth town site. The plan of the City of Perth, circa 1903, shows the broad expansion of the city beyond the boundaries of the 1833 town reserve. (Fig.3.1) In 1897 the north eastern boundary of the city was extended to incorporate residential growth in Highgate, north along Beaufort Street to Walcott Street and the Norwood Estate, east of Guildford Road. Further subdivision and the creation of new streets within the city boundaries continued and in 1904 the City Surveyor was requested to produce an up to date plan of the city.15 The principal areas of growth were Highgate, Northbridge and West Perth, while outside the boundaries Subiaco (Perth Commonage), Leederville, North Perth, Mount Lawley, South Perth and Victoria Park experienced further residential growth; suburban growth encouraged by the introduction of additional public transport systems.16

The existing Fremantle-Perth-Guildford railway line was an obvious cause of transport related suburban growth and this was reflected in the opening of several intermediate stations along the line, including Subiaco (1883), Claremont (1886), Maylands (1896), Leederville (1897) and later Mount Lawley (1907), while stations along the Perth-Bunbury line encouraged further growth in the Victoria Park and Queens Park

14 Perth City Council received numerous letters of complaint from city residents regarding incompatible land use. One resident, at 689 Wellington Street, complained of having her weekly washing ruined by the smoke and soot from Saxton and Binns's sawmill. See Battye, Acc 2501, "PCC Health Matters".
15 PCC Works Committee Minutes (1894-99), p.150 (6 September 1897) and Minutes (1903-07), p.21 (16 August 1904).
Fig.3.1
City of Perth, c.1903. The map illustrates the growth of the city beyond the original town site boundaries.
(Source: M Pitt Morison and J White, Western Towns and Buildings)
subdivisions. These were suburbs where the residents could offset the cost of using public transport against the low cost of residential lots. The importance to landowners and property investors of access to an effective transport service was obvious. WE Bold recalled that in 1896 the Perth City Town Clerk, noting that a railway station was bound to be located near the Mount Lawley Estate, suggested that Bold take a look at the area and assess where the station might be located, with "a view to buying a few blocks", no doubt in anticipation of land prices rising once the area became more accessible. In early 1898, the Western Mail concluded that "a railway siding having been granted to the (Victoria) Park its progress should be materially enhanced". Later, in July, Leederville Council, on behalf of local residents who worked in the city, made a submission to the Minister for Railways requesting the re-introduction of the 5.42pm Perth-Subiaco train. This request was followed by a further submission in August demanding "better facilities for the railway traffic at West Leederville Station", in particular provision of proper shelter and better means of access. Clearly, access to the railway and the provision of an efficient transport service influenced the value of land, growth of a suburb and well being of local residents. Contemporary advertising material for land sales confirms the important relationship between suburban expansion and means of transport. Inexpensive lots on Victoria Square Estate, Perth, were described as only "seven minutes walk to the town hall", the Bowral Park Estate in Subiaco was "close to buses and the new railway station at Kimberley Street" (West Leederville), while Maylands was described as being "only fifteen minutes drive from Perth."

In suburbs unaligned with the railway a decent road connecting to the city was an essential element to future development. Alexander Forrest, supporting the introduction of the Municipal Institution Bill in 1895,
argued the need for local councils to have the ability to raise funds for public works, particularly roadworks. He claimed "the increased settlement in West Perth for instance would not have extended towards Subiaco if a good road had not been made through the bush to Subiaco."22 Illingworth, his parliamentary colleague and a real estate agent, confirmed this point, stating that "land on the Subiaco Road had more than doubled in value in consequence of the road being made."23 In this instance the suburb, West Perth, was within a short walk of the town hall, but in a society where private transport was limited the availability of public transport was a most important service for suburban residents. In areas not easily served by the train system interest arose in the establishment of tram systems in Perth.

The possibility of introducing a tram system in Perth had been debated in parliament as early as 1885, but due to economic circumstances and legislative wrangles over the ownership and control of the tramways, nothing had come of it. Tram and bus systems are more flexible in where they can be established and therefore they are more responsive to suburban growth patterns than a railway which, by its nature, is a fixed, inflexible, system best suited to longer journeys.24 There was bound to be economic conflict if the tram and train systems were to compete for the same patrons, therefore the government, as the owner of the railway, established a development policy for tramways, which gave the government control over the location of tram routes, even though the actual introduction of the tram systems would be by way of contract between private tram companies and respective local councils.25 The tramways were directed to areas not already serviced by the railway. (Fig.3.2) Perth's first tram service was inaugurated in late 1899, running west along Hay Street from the Causeway (East Perth) to West Perth, but even before the tramline was completely laid the Subiaco Town

22 PD WA 8 1895 359.
23 PD WA 8 1895 360. F. W. Illingworth left Melbourne a bankrupt with debts of £300,000, but later became State Treasurer in Western Australia. (M. Cannon, The Landboomers, pp.82-84.)
24 J. W. McCarty & C. B. Schedvin (eds), Urbanisation in Australia, p.72.
25 See debate on second and third readings of the "Urban Tramways Bill", PD WA 10 1885 248, 385-87, also W.A. Statutes, 1897, 61 Vic. No.30, City of Perth. Tramways Act. Battye states that G. Temple Poole was one of the directors of the tram company. Cyclopaedia of Western Australia, p.621.
Fig.3.2
Map of Perth and suburbs, 1900. It illustrates existing and proposed routes of Perth tramways.
(Source: Western Mail, Christmas Issue, 1900)
Council, realising the commercial potential for future growth in Subiaco, contracted with the tram company to connect into Perth's tramline and in 1900 the line was extended further west along Hay Street to Rokeby Road. In rapid succession the tram companies laid tramlines in Leederville (1900), North Perth-Osborne Park (1902), Victoria Park (1904) and North Perth-Mount Lawley (1904-9). They were encouraged by local councils and financially aided by land developers as it was a means of stimulating land sales and residential growth in these suburbs. The developers of the Mount Lawley Estates, when marketing "Mount Lawley Estate No.2", paid the tram company a subsidy to construct an extension along Walcott Street from the Beaufort Street line. The Gold Estates Company subsidized the northern extension of the Beaufort Street line to their estate at Second Avenue. The presence of a tram line, or its imminent establishment, was an essential element of any land sales promotion. Promotional material for the Highlands of Nedlands Estate encapsulated this thinking with its bold claim that "population and building follow in the wake of the tram."

The introduction of these additional systems of public transport enabled the location of housing in Perth to follow the national trend of spreading suburban growth even further from the city centre; a trend reflected in census figures for housing. In 1901 the City of Perth had 5,126 houses, while a decade later, in 1911, there were 6,858 houses, however in the same period the number of houses in Leederville almost doubled from 664 to 1,246, in Subiaco the houses almost trebled from 720 to 2,055 and in North Perth it more than doubled from approximately 400 houses to 1,018. More distant suburbs, including Claremont, Maylands, Mount Lawley, South Perth, Victoria Park and, later, Nedlands experienced housing growth on a less significant basis, but collectively their growth

26 In a letter (21 September 1904) to the Colonial Secretary the North Perth Town Clerk warned that any delay in resolving a boundary issue on Walcott Street would delay the construction of the tramway and "any such delay would be a serious matter for this District".
27 See debate on the North Perth Tramways Act Amendment, PD WA 37 1909 1451-1463.
28 Battye, PR.2812, "Follow the Tramtrack", 1912
29 Housing figures from the Census of the Commonwealth of Australia, 1901 and 1911.
rate confirmed the favoured pattern of suburban housing developments throughout the metropolitan area.

3.3 Land Subdivision

A notable feature of the growth of suburban housing was the social separation which occurred in and between the various suburbs. Despite a national image of egalitarianism, Australians striving for social mobility became more class conscious and this was reflected in a desire for social distinction.30 The number and diversity of suburban developments offered the population a means of achieving social distinction through demographic separation. Where previously a centralised city provided the necessary services and facilities to all residents who lived clustered together it was now possible for each suburb to offer a selected range of services suited to the specific requirements and finances of its local residents.

In Perth the growth of numerous suburbs, each exhibiting a differing set of physical, economic and social characteristics, permitted residents a greater degree of physical separation and social stratification. Suburban residents quickly established their own local councils, or road boards, and passed legislation to ensure their suburb maintained and reflected their own set of values. The status of various suburbs in Perth, based on the wealth, occupation and lifestyle of residents, was readily apparent to locals and outsiders alike. Contemporary writers were suitably impressed by the fashionable and prosperous suburbs of Claremont, West Perth and Cottesloe. May Vivienne, in Travels in Western Australia, wrote favourably of their elegant villas and mansions, however she described Leederville and Subiaco as being "affected by the artisan class", while Victoria Park, being the cheaper part of the city, rated a bare mention.31

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31 May Vivienne, Travels in Western Australia, 2nd ed., 1902, p.70.
In the 1990s real estate promotions in Perth usually claim the three most important factors of contemporary real estate are location, location and location. In the late 1890s real estate advertisements were little different in this respect, but the desirable attributes of location were somewhat different from our contemporary concerns. Land salesmen in 1900 were dealing with newly created residential land, land which in many instances had not previously been cleared for agricultural purposes; it was frequently virgin bushland. The task of residential land salesmen was to establish and highlight, and if necessary even fabricate, the land's positive residential attributes. Land developers, albeit increasingly controlled by government legislation, decided on the width and depth of lot sizes, road widths and the location of rear site access in their subdivisions, but the parameters they used in making these decisions varied considerably from one location to another. Thompson's study of a number of nineteenth century suburban developments in Britain suggests that the "complex character of the shadows" of pre-development features on the site influenced the shape, form and character of suburbanization; "frequently, it can be observed that the fully built up environment exhibits the marks and scars of its rural antecedents." This might be true in Britain where new suburbs encroached on rural farm land previously settled and tilled for centuries, however in Perth the "scars of rural settlement" were not very deep and in many cases were to be observed solely in the subdivision boundaries, which mirrored original colonial land grants. Much of the land surrounding Perth town site was little more than scrub, or bushland.

Thompson concluded there were other significant factors which affected the character of suburban development; these included the social standing of the present landowner, the physical quality of the site, the status of adjacent areas and the standard of the first few buildings constructed on the site. Another important conclusion was that while the developer could make an estate more attractive to land buyers through the inclusion of generous lot sizes, improved location and standard of roads, provision of services and attractive pricing these inputs could only

reinforce the existing influences of locality and status, rather than dictate a new social standing.\textsuperscript{33}

An analysis of suburban land sale advertisements in Perth at the turn of the century and the subsequent social status of these suburbs confirms similarities to Thompson’s British study. In the early 1900s the features most frequently promoted in advertisements for land included the physical characteristics of the site, particularly its elevation, proximity to the city centre and presence of prominent neighbours. Elevated lots offered potential for views (whether they be of city, river, sea or the Darling Ranges), possible enjoyment of cooling breezes and natural drainage of the site (the latter two regarded as important elements for good health). A natural supply of good drinking water was an important consideration, but gradually became less significant as more areas were connected to Perth’s piped water system. Proximity to the city centre, condition of roads and availability of public transport determined the accessibility of the estate, the existence of any local or adjacent amenities and services indicated the standard of living in the area, while the neighbouring presence of prominent residents was indicative of the financial and social standing of the locality. (Fig.3.3)

Estates in Perth were promoted on any, or all, of the above features which they might have to offer. Advertisements promoted the "natural advantages of drainage" at the Glebe Estate, a "splendid well of first class water" at Arthur Park, and the Inglewood Estate emphasised that Beaufort Street was "metalled through to the city." Many estate maps sought to emphasise the desirability of their lots by highlighting the number of existing residences on adjacent estates; in the more exclusive estates in Claremont and West Perth the location of well known members of the Perth community were highlighted to assure buyers of the social standing of the neighbourhood. Messrs. Copley and Robinson, who wished to create the Mount Lawley Estates as an upmarket residential neighbourhood, strongly resisted attempts to have their land incorporated within the boundaries of the less than wealthy North Perth

\textsuperscript{33} F. M. L. Thompson (ed), \textit{The Rise of Suburbia}, p.18.
Fig. 3.3
Advertisement for residential lots in West Perth. The status of neighbours and the amenity of the neighbourhood is strongly promoted.
(Source: Battye Library, Real Estate Plan, No. 813)
municipality. They feared incorporation would damage the wealthy image they were creating for their new estate.\textsuperscript{34} Often the prized attributes of estates were exaggerated. Land for sale in Barnfield Street, Claremont (1896), was described as having "commanding views of the Indian Ocean and Freshwater Bay" and being "within a stone's throw of the station" and residential lots surrounding the Redemptorist Monastery grounds were described as sited on the "heights of North Perth", surrounded by superior villas, over looking the city and river and one minute from the tram, in this "progressive suburb."\textsuperscript{35} In such instances it would certainly be of help if buyers had very good eyesight and a strong throwing arm.

West Perth, a suburban residential area developed in the late 1890s, had the essential characteristics of a quality neighbourhood: close proximity to both the services of the city centre and the amenities of Perth Park (later to be known as King's Park); elevation, which provided for healthy site drainage as well as cooling breezes and wide views over the city and hills; social status associated with the residents in nearby Mount and Malcolm Streets; and ready access to the city's piped water system.\textsuperscript{36} Therefore developers subdivided the land into generous lots, to suit the large spacious houses expected to be built and priced accordingly. Having no established social status of its own West Perth was given one, which, through association, both local and interstate land buyers could readily recognise. West Perth was variously advertised as "the Toorak of Perth", "the most fashionable and healthiest part of the city" and "the choicest residential district of Perth."\textsuperscript{37} The Altona Estate, subdivided by the Colonial Finance Corporation in two stages in 1895, was marketed on the basis of its proximity to the Town Hall (2 kilometres), access to the proposed Hay Street tramline (0.4 kilometre) and the large residences in Malcolm Street (0.4 kilometre). The first Altona lots were 650 square metres, with 15.24 metres frontages and rear access to all sites from a series of right of ways, while in the second subdivision lot frontages were

\textsuperscript{34} Letter to the Colonial Treasurer from Copley and Robinson's solicitor, S. J. Haynes, 30 September 1901.
\textsuperscript{35} Battye, Acc.No.78c, Real Estate Plans, Nos.125, 587, 841 and 818.
\textsuperscript{36} Battye, Acc.No.78c, Real Estate Plan No.813. The high elevation of the site made West Perth an ideal location for Perth's Observatory (1896).
\textsuperscript{37} Battye, Acc.No.78c, Real Estate Plans.
increased to 18.2 metres. An adjacent rival estate on Richardson Street, "the Crown of West Perth", offered "lovely views, macadamized roads, water services and a 3d [threepence] bus fare."\textsuperscript{38} Prestigious residential lots in West Perth were priced according to their characteristics; the best lots (697 square metres) in Colin Street, the social and physical centre of West Perth, sold for up to £150, while similar sized lots in Ord Street and other adjacent streets sold for £75.\textsuperscript{39}

While it was possible to establish a dominant social class within a suburb the very process of subdividing land produced a degree of social mixture, particularly on the fringes.\textsuperscript{40} Not all land within a suburb was of similar quality; a railway, while beneficial for access to the whole community, was considered an undesirable neighbour, low lying land was thought to be less healthy than elevated land and residential lots adjacent to any type of industrial use were judged to be unattractive. This was certainly the case in West Perth, where elevated large lots near Kings Park were expensive (Fig.3.4), in contrast to small less expensive lots situated on the lower land between Duoro (Wellington) Street and the railway line, particularly lots adjacent to the West Perth railway crossing. (Fig.3.5)

Lots Y189, Y263 and Y264, although within the West Perth postal area and on an elevated site, were located north of the railway line in an area cut off from the city centre, near to a number of small industrial works, including a Bunning Brothers' timber yard, and with little to offer in the way of public amenities or services. The lots were jointly subdivided into a short cul-de-sac, Prospect Place, and the lots sold as "the best and cheapest building lots in Perth."\textsuperscript{41} A number of lots were subdivided again, so as to make them financially attractive to potential owners and occupants of lesser wealth and status. The small narrow houses built in Prospect Place reflect the low public perception of the locality. In 1906

\textsuperscript{38} Battye, Acc.No.78c, Real Estate Plans Nos.815, 817 and 818
\textsuperscript{39} West Australian, 9 March 1896, p.2. By way of comparison a 483sq.m lot, 0.8 kilometres from the Subiaco station, cost £10, while "working men lots" with a 15.24m frontage, "right against the station", sold for £18.
\textsuperscript{40} F. M. L. Thompson (ed), The Rise of Suburbia, p.21.
\textsuperscript{41} Battye, Acc.No.78c, Real Estate Plan No.830. This statement is a gross exaggeration, even if taken to refer only to land within the PCC area.
Figs. 3.4 & 3.5
Street plans, West Perth. Of identical scale, the plans illustrate the difference in lot subdivision and housing between the desirable higher area and less desirable lower area of West Perth.
50% of houses in Prospect Place were owner occupied; the professions of the owners and tenants included clerks, blacksmith, railway employee and engine driver. Houses in Altona Street were also 50% owner occupied, but the professions of residents included architecture, finance and management. In the Altona Estate property owners built substantial "gentlemen's residences", which cost between £650 and £750 to build, but in Prospect Place the owners built houses of narrow width (one room plus hallway), more suited to the low income of likely occupants. These houses would have cost approximately £100 to build. A decade later, when the smartest part of West Perth was nearly built out, the tenor of the suburb could be gauged by the large number of prominent architects, including Thomas Anthoness, Harold Boas, the Cavanagh brothers, P. W. Harrison, Jack Ochiltree and F. W. Upton amongst its residents. As might be expected, the majority of the houses in the neighbourhood were architect designed.

The elevated area of Mount Lawley also attracted residents with professional backgrounds, including five architects and a number of civil servants, whereas North Perth had a high number of prominent builders and contractors, including S. B. Alexander, R. Gamble, M. L. Lloyd, J. Skinner and C. P. Wilson as residents. Residential lots in North Perth were primarily marketed on the basis of the value of lot size and price. Advertisements stressed the healthy benefits of the area's elevation, the possibility of views and easy access to public transport, for there was little else of note in the area. The exceptions were the more attractive lots on the heights overlooking Hyde Park (1898) and the Redemptorist Monastery (1902). Houses built along Vincent Street, on the upper, northern, side of Hyde Park are much more substantial than those built in Glendower Street, along the lower, southern, border of the park. The houses in Camelia and Alfonso Streets, which border the monastery, are similarly of a grander design than typical houses elsewhere in North Perth. Generally, it was an area with a reputation of few pretensions and in the early 1900s North Perth must have been still reasonably rural, rather than suburban, for a letter to Perth City Council refers to the
necessity of keeping the gates to Hyde Park closed to prevent stray cattle from eating young trees.42

In contrast, lots on the Belmont Racecourse Park Estate were vigorously promoted as being "land suitable for residences, orchards and gardens", "splendid garden and orchard land", with water "obtainable at shallow depth." Because the less accessible and low lying location made the area relatively unattractive to home builders the very large blocks, varying in size from 1,243 square metres to 40,318 square metres, were inexpensive, priced from only £15.43 Despite Belmont Racecourse Park Estate having "a school, numerous private residences, two hotels and a store within half a mile [0.8 kilometre]" and a low price for large lots it would be many years before the area became sufficiently attractive for residential purposes. Too many other suburban subdivisions in Perth had more favourable features to offer prospective buyers.

3.4 Government Legislation

The boom period had placed government, both state and local, under tremendous pressure as it tried to exercise control over standards of land subdivision and building construction and thereby establish minimum community standards for housing. To this end the state government had passed both the Municipal Institutions Act and an amendment to the Building Act (1884) in 1895, which gave local councils authority to control the standard of subdivisions and building within their municipality; henceforth local councils could introduce and police their own set of building by-laws.44 While it was practically too late to change patterns of subdivisions, the easing of pressure for new housing presented government with an opportunity to ensure building by-laws were observed. All land developments and new buildings were required to be issued with a licence by the local council. Developments which did not comply with local regulations could be refused the necessary licence; where a development occurred without a licence the council could take

42 PCC Minutes, 9 September 1902, p.271.
43 Battye, Acc.No.78c, Real Estate Plans Nos.87 & 89.
44 WA Statutes, 1895, 59 Vic.29 Building Act (1884) Amendment.
legal action against the property owner to enforce the building regulations.

The need for legislation to govern subdivision of residential land was an issue that attracted a considerable amount of professional debate in Perth, prompted by new town planning ideas emerging in Britain. In the early 1900s Perth City Town Clerk, W. E. Bold, published a number of articles on town planning, city management and land subdivision emanating from Britain and the eastern states. Michael Cavanagh, who was ever ready to speak on a current architectural issue, presented a paper on "the City Beautiful" on 22 July 1904.45 Their concern for planning matters was amply supported by the editor of the WA Mining Building and Engineering Journal (WAMBEJ), who also took an interest in these issues.46 In 1903 the editor was critical of government subdivisions, stating "the mandate exercised by the Survey Department has not associated with it any responsibility for the exercising of an understanding of the characteristics of a desirable townsite. Regardless of economy, hygienic requirements and healthful conditions, they are laid out in scorched and sandy dust plains or worse."47 In 1906 WAMBEJ published a lengthy precis of a paper on planning residential districts presented by Raymond Unwin at the Seventh International Congress of Architects, London. Unwin argued for a greater regulation of land subdivision, based on Howard's Garden City concept, incorporation of "belts of parklands, meadow, wood or orchard" and picturesque groupings of buildings to produce "variety of effect in the street."48 These ideas were very much part of the garden suburb ideal, which gained a popular following in Australia. Opposing the garden suburb plan was the commonly held belief that subdivisions laid out according to these more

45 There is no report on the content of Cavanagh's paper, but the influence of City Beautiful ideas in Perth was later evident in Temple Poole's proposal, "Perth as it should be" (1911), a core of civic buildings on the central railway land.
47 "Architectural Notes", WAMBEJ, 3 January 1903, p.16.
48 WAMBEJ, 22 September 1906, p.19.
picturesque ideals were more expensive, but later articles in real estate journals argued that such schemes included a more effective use of roads, thereby making these schemes more economic, as well as more visually attractive.49 However, if any local architect did not find Unwin's planning ideas attractive, he was sure to agree with the suggestion that architects, rather than surveyors or engineers, were best qualified to lay out residential subdivisions, particularly at a time when architectural work was increasingly in short supply. For the moment though, this debate, while interesting, was also largely academic; during the boom period an excessive amount of land had been subdivided into residential lots and it was several years before the abundant supply was absorbed by the housing market. Lacking direct influence in shaping the city through land subdivision policies, Perth City Council was more effective with the introduction of a city beautification policy. An awareness of the visual and health benefits of parks and gardens had emerged across Australia in the 1890s. This interest was reflected in the institution of Arbour Day as a celebration and promotion of the beauty and benefit of trees, flowers and nature. The state government had taken the initiative in this area with the passing of the Management of Parks and Reserves Act of 1895, but the city council quickly established the City Parks and Garden Committee and allocated substantial funds for the creation of recreational parks throughout the residential areas of the city. In 1897 the Council began work transforming the disused and unsightly East Perth Brickfield into Queens Gardens (East Perth), the following year £500 was set aside to transform Third Swamp into Hyde Park, (Highgate) and then Russell Park (Northbridge), Delhi Square (West Perth) and Wellington Square (East Perth) were established.50 The Council was aware of the need to improve the visual quality of the city, both to provide an amenity for local residents and to impress visitors. Cr. Bickford, a leading member of the City Parks and Garden Committee, was quoted in the West Australian as saying, "one of the most potent inducements to residence was a well laid out and ornamental city, and the desire, which all had, to retain in the colony those who had made

49 Real Property Annual, (1916), p.67. citing an example of subdivision at Heidelberg, designed by Walter Burley Griffin.
their money in it received greater possibilities if the city was beautiful."51

To support his case he cited the recent establishment of Golden Gate Park in San Francisco and claimed Perth would more than rival Melbourne and Ballarat in the number and quality of its parks. Encouraged by these examples, local councils reserved land for recreational parks throughout the expanding suburbs of Highgate, Leederville, North Perth and Subiaco. Across the river, in South Perth, the Perth Zoological Gardens (1897) was established and in 1901 Perth Park, already a popular recreational park, had its status further enhanced when it was formally renamed Kings Park. The popularity of these policies was evident in the increased value of residential lots facing onto a public park. In all cases the quality of these houses was a marked improvement on the houses in the general vicinity. The provision of public gardens strengthened the popularity of private gardens. In the 1890s gardening was widely promoted as a healthy and morally productive leisure activity, which in turn reinforced the relationship between house and garden setting. The romantic images of "cottage gardens", delightfully defined by popular book illustrators Walter Crane and Kate Greenaway52, were widely imitated in architectural graphics and real estate promotions. In the suburbs individual houses melded into a picturesque tableau of house and garden, as suburban life attempted to imitate art. (Figs.3.6 & 3.7)

While local and state governments could do little about land subdivisions they could exercise tighter control over the standard of building construction. Following the 1895 Amendment to the Building Act (1884) the Perth City Council Works Committee invited a sub-committee of architects to report on the city's new building by-laws. In June a revised set of regulations was approved by the full Council and in July a comprehensive set of building by-laws was issued.53 At the same time the City Building Surveyor was empowered to serve infringement notices on property owners whose buildings did not conform with the building

51 West Australian, 2 September 1900, p.7.
52 In 1885 Kate Greenaway, a close friend of John Ruskin, lived at 39 Frognal Way Hampstead, in a house designed for her by Norman Shaw. Her illustrations of domestic bliss clearly reflect her associations with the ideals of Ruskin and architecture of Shaw.
53 PCC Works Committee Minutes (1894-99), p.50 (27 February 1896), p.77 (3 June 1896). See previous chapter, 2.4 Building Regulations, for further details.
Fig.3.6 & 3.7
Architectural illustrations, 1890s. The illustrations emphasise the garden setting of suburban houses in Sydney and Melbourne. Note the occupants at their leisure in the gardens.
(Source: ABCN, 16 September 1893, 11 August 1894)
regulations, and the Council threatened legal action against any owner who did not respond to an infringement notice. In the minutes of the Council’s Works Committee the most frequent issues of concern were the construction of timber buildings within the central area governed by the by-laws, the residential use of buildings deemed to be unfit for human habitation, properties which were not properly fenced and later, as more roads were constructed, the lack of provision of cross-overs from properties to roads. The Council was more than willing to enforce its new building regulations; neither the high nor the mighty were spared infringement notices; lists of offenders included the Premier, Sir John Forrest; F. W. Illingworth, MLA; future mayor, W. G. Brookman, and T. G. Molloy, city councillor, member of the Works Committee and also a future mayor. Typical of the Council’s eagerness to exert control over the standard of buildings within its boundaries was its response to the passing of the new Health Act (1898); within a few weeks long lists of property owners were sent notices requiring them to ensure the floors of their earth closets did not contravene the new act.54

Perth City Council soon found that as new problems emerged it was frequently necessary to amend its building regulations, and two years later the Works Committee recommended that a new set of building by-laws be sent to committee members for their approval.55 The new by-laws separated buildings into different classes, ie. "buildings not public" and "buildings not warehouses", and provided different regulations for each group. The housing regulations, still primarily concerned with health matters arising from damp penetration, focused on ensuring houses were built on clean sites and constructed with solid foundations and walls of suitable materials and thickness. The health issues of light and fresh air were covered by new requirements that all habitable rooms have window light equivalent to 10% of the floor area and a window, equivalent to 5% of the floor area, capable of being open for ventilation. The lawmakers aimed to ensure that the people of Perth would have healthier living conditions. The new laws also indirectly confirmed front

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55 PCC Works Committee Minutes (1894-99), p.161 (10 January 1898).
boundary setbacks by prohibiting bay and oriel windows and turrets from projecting within 12 metres of the opposite side of the street.56

Due to the increasing complexity of the regulations and the diversity of buildings covered by the building by-laws the Works Committee, in August 1900, requested the City Engineer "to revise the Building By-Laws in his spare time, and report to the Committee at a later date."57 Four months later this casual approach to legal revision was replaced by a more specific request that the City Solicitor be engaged to draft a comprehensive set of by-laws, incorporating the Municipal, Health, Building and other relevant Acts.58 Two weeks later a minor building law, Clause 21H, which governed the distance a window could be located from a property boundary, was reduced from 1.2 to 1.0 metre, but apparently the City Solicitor worked no faster than the City Engineer and it was October 1901 before the Works Committee, which now included architect Michael Cavanagh, recommended that a draft of the new building by-laws be submitted to the West Australian Institute of Architects (WAIA) for its suggestions.59 This request was followed in March 1902 by a Committee resolution that a copy of the new building by-laws be sent to each member of the WAIA, but it is not clear if this copy was for the architects' comments, or their use once the new laws were finally operative.60 In January 1903 the WAMBEJ editor announced that "the City of Perth has adopted an amended set of building by-laws, and Fremantle is taking steps in the direction of having a set drafted", in February the secretary of the Council's Works Committee, no doubt with great relief, finally recorded that the building

56 Government Gazette (WA) 2 September 1898, p.2561. Regulation 16, parts 5 & 6, deal with projecting bay and oriel windows and turrets, but the regulations are difficult to comprehend. Of specific interest is the numerous references to keeping within the "general line of building", although no specific mention has been found of where this line exists and who determined where it should be. In Highgate the general building line is 5 metres from the street boundary, in North Perth it is 6 metres and in Subiaco it is 6 metres. In the older, inner, suburbs of Melbourne and Sydney front set backs range from 1 to 3 metres.

57 PCC Works Committee Minutes (1899-04), p.146 (6 August 1900).

58 PCC Works Committee Minutes (1899-04), p.172 (2 January 1901).

59 Michael Cavanagh was an active committee member of the WAIA and in 1903 he was elected president. He was more than willing to use his membership of other public groups to promote and influence issues of architectural concern.

60 PCC Works Committee Minutes (1899-04), p.217 (22 October 1901) and p.244 (11 March 1902).
by-laws had been amended by the Perth City Council, but it was not until May that the new laws were gazetted.61

It had taken the Council almost five years to amend a set of building by-laws which M. Cavanagh had described as being "unworkable", but part of the problem associated with the old by-laws was the City Building Surveyor's interpretation of the regulations. This had led to friction between architects, builders and Perth City Council.62 The new regulations were designed to clarify the contentious issues raised by Gjedsted, and henceforth all applications for building licenses were required to be submitted with coloured plans, drawn in ink on minimum size paper of 15" x 22" (380mm x 560mm). The major changes to the by-laws aimed to ensure the soundness of construction and protect the health of inhabitants. A dampcourse in walls was compulsory, a standard brick size was set at 81/2" x 41/4" x 23/4" (216mm x 108mm x 70mm). The minimum thickness of external walls remained 81/2" (216mm), however Clause 15 stated external walls "may be built with a cavity not exceeding two inches wide [50mm]" with a 41/2" (114mm) brick leaf on each side, thus establishing the standard 11" (280mm) cavity wall. One may infer from the comments of architect P. W. Harrison that architects and builders regarded the use of cavity wall construction as optional rather than necessary, however the majority of brick houses built after 1900 have cavity walls.63 (Frequently external walls to service rooms, kitchens, pantries, bathrooms and laundries were only single or double leaf construction.) Some minimum standards were reduced, for example the minimum ceiling height was lowered from 2.7 to 2.6 metres (although the vast majority of houses continued to be built with 3.35 metres high ceilings), while the minimum permissible distance of a window from a side boundary was reduced from 0.9 metres to 0.76

61 Government Gazette (WA), 15 March 1903, pp.1125-34.
62 Following an investigation into his performance the Council asked the incumbent, architect Edward Gjedsted, to resign. PCC Minutes, 11 November 1902, p.8 and 29 May 1903. Included amongst those short-listed to fill the position, in 1903, were architects Charles Connop, A. A. Danker, D. H. Inverarity and D. Hatfield, but none of them were successful. In 1904 Inverarity was appointed South Perth's Municipal Engineer.
63 P. W. Harrison, "Healthy Homes", WAMBEJ, 3 September 1904, pp.18-20.
metres. Overall, the general outcome of the revision of Perth City Council's building by-laws was a more orderly, comprehensive and comprehensible set of building regulations.

Other local councils introduced their own building by-laws, but there was no uniformity in their regulations, for they were designed to suit the specific concerns of the municipality. In Subiaco, predominantly an artisan suburb than Perth, it was permissible to build habitable rooms having a volume of 19.8 cubic metres, with windows 0.08 the area of the floor space and with windows of only 0.04, capable of being open. These figures compare unfavourably with the Perth by-laws where the minimum sizes were 22.6 cubic metres, 0.2 and 0.1 of floor space, respectively. In Subiaco a room of 19.8 cubic metres, having a minimum ceiling height of 2.6 metres, would have a minimum floor area of 7.62 square metres, whereas in Perth the minimum floor area was 8.82 square metres. Given that it was legally possible to build rooms of 7.62 square metres it might be expected that builders would reduce room sizes to the minimum legal size, but the dimensions of principal rooms did not diminish. Living rooms were consistently designed with dimensions of 4.27m x 3.66m or larger, while best bedrooms were usually 3.66m x 3.66m and even the second bedroom was 3.66m x 3.0m. These room sizes were typical of all houses in Perth, whether they be a small two room weatherboard cottage, a four room brick and iron villa, or a gentleman's large residence. In the early 1910s when escalating building costs forced architects and builders to economise on floor space it was circulation space rather than room sizes that was excised. Living rooms in Workers' Homes, designed by the government architect in 1912, were still a minimum of 4.27m x 3.66m and in the plans where the passage was incorporated into the living room the floor size was increased to 4.88m x 3.66m, or more. The smallest secondary bedroom was 3.66m x 2.7m. This point might be explained by the fact that, despite the dictums of architectural writers in support of "multifarious rooms" of specific purpose, rooms in the majority of Perth houses were much more

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64 The evident public indifference to these two particular changes in building regulations raises the question of who requested the changes be made and to what advantage were they intended? A study of Council Minutes provides no explanation to either question.

multifunctional. Not having sufficient separate rooms for different activities it was necessary for a family to share space within a limited number of rooms. Interior photographs and illustrations indicate that rooms in Perth were furnished with many more pieces of furniture arranged in small groupings, quite unlike contemporary furniture arrangements.\textsuperscript{66} This practice meant that room sizes were slightly larger and more flexible in their use; hence the relatively large size of rooms, even in a small house of only two or three rooms.

The one issue that most members of local councils and road boards agreed upon was the elimination of timber buildings. However, attempts by local government to outlaw timber buildings through building by-laws sometimes produced odd results. Developing artisan municipalities, including Leederville, North Perth and Subiaco, could not afford to stifle the growth of housing in their suburbs, something which would occur as the result of an outright ban on timber buildings. Therefore, councils tried to reach a compromise position. In late 1903 the North Perth Council decreed that all timber buildings should be built 9 metres back from the frontage, but eight months later public pressure forced the Council to rescind this law.\textsuperscript{67} While local councils struggled with this problem a number of houses were built in artisan suburbs, Leederville, North Perth and East Fremantle, which tried to mediate between abiding by the building regulations and the cost differential of a brick or timber house. Built by their owners, all the houses share a number of common characteristics; a standard rectangular plan of parlour, best bedroom and central hallway built in solid brick, with additional bedrooms, eating, kitchen and service areas built in weatherboard at the rear. (Fig.3.8, 3.9 & 3.10) The details and finishes of the front rooms and hall are of a high standard; elaborate cornices, ceiling roses, fireplaces and mantelpieces, high skirting boards and moulded architraves. A very impressive image was presented in the 'public' rooms, but beyond this point the standard of construction, materials, details and finishes dropped dramatically. A check of council rate books indicates the value of these houses ranged from £75 to £100 and the owners were consistently in the building industry, labourers for the cheaper houses, tradesmen (carpenters,
Figs. 3.8 & 3.9
52 Forrest Street, North Perth and 69 King Street, East Fremantle. Two examples of houses in Perth, c.1905, with front rooms constructed in brick and back rooms in weatherboards.
Figs.3.10
Plan, 40 Galwey Street, Leederville, c.1905. The front two rooms and hall are brick construction, the back rooms are weatherboard.
plasterers, etc.) for the more expensive houses. Given the owners' occupations in the building industry, the initial cost of construction and the social and economic status attached to brick construction it might be presumed that it was the owners' intentions to eventually complete the houses to the same standard of brick construction as evident in the front rooms, though it rarely occurred.  

During this period of consolidation architects began to play an active role in government. The Western Australian Institute of Architects had been established in May 1896, but it did not become an effective lobby group until the early 1900s, when it was more than willing to advise local government, particularly Perth City Council, on issues such as building by-laws and sanitation. The WAIA did not hesitate to recommend the introduction of new laws, or amendments to existing laws, when it believed changes were necessary. A number of architects took a more individual political role. In 1897 Michael Cavanagh stood for election for the state seat of North Perth. The two major issues in his election speech were the provision of "working men's (housing) blocks in the vicinity of towns" and the provision of a deep drainage scheme for Perth, an issue he was to promote for several years in other fora. Although unsuccessful in state politics, Cavanagh and numerous other architects successfully stood for election in local government. Austin Bastow was elected a councillor to the new Subiaco Council in 1899 and elected mayor in 1901 and again in 1905, R. G. Oldham was elected a councillor for North Fremantle in 1902 and mayor in 1904, J. F. Allen was an East Fremantle councillor from 1904 to 1909 and mayor from 1909 through to 1914 and J. McNeece served a term as a Fremantle councillor in 1913. G. Temple Poole and Edwin Summerhayes served terms on the Claremont Council, while Michael Cavanagh (1901), J. L. Ochiltree (1906), Alexander Cameron (1907) and Harold Boas (1914) were elected to Perth City

68 Of these houses, only the house at 132 Raglan Road, North Perth, shows evidence of having the timber section replaced by a brick structure at a later date.

69 In 1903 the WAIA recommended the PCC require that all plans submitted with an application for a special building licence be signed by an architect. In 1905 the WAIA recommended the PCC prohibit the construction of any balconies which extended over public footpaths. For some unknown reason this latter issue provoked many heated debates. PCC Works Committee Minutes, 8 September 1903, 2 June 1905.

70 Western Mail, 26 March 1897, p.12.
Council. (Cameron later served on the North Perth Council.) These architects were able to contribute their building knowledge and their architectural philosophies to council debates, especially Cavanagh and Ochiltree who chaired the influential Works Committee during their terms. These architects helped shape councils' planning policies and building regulations, particularly those associated with land subdivision, health issues, building construction, use of materials and the issuing of licenses, which legally governed the development of housing in Perth suburbs. This is not to suggest the architects controlled the housing debate; they were assisted, and frustrated, by an even larger number of property developers, builders, manufacturers of building materials and financiers who consistently stood for election to local councils. While architects might well have been prompted by altruistic motives to ensure ratepayers lived in better conditions, it was also in their professional interest to ensure that proper standards of building construction were maintained and their professional services widely utilised. Similarly, it was in the interest of developers to increase sales of their properties and in the interest of builders to ensure the housing market continued to grow; together all groups shared a vested interest in local government support for the continual expansion of housing. This commitment to growth in the housing market was further strengthened in the many instances where councillors were privately involved in housing investments, as so many were.\textsuperscript{71}

The colonial government continued to support local councils to regulate housing conditions by enacting legislation when necessary. In 1898 an \textit{Amendment to the Building Act of 1884} gave local councils power to take control of private roads. Local councils had previously been unable to exercise any control over the standard of roads and footpaths in private estates, nor could a council respond to ratepayers' demands for the upgrading of private roads. With so many neighbourhoods without proper roads or footpaths the presence of a macadamized, or metalled, road and a footpath outside a house gave it an immediate financial and

\textsuperscript{71} The Legislative Council electoral rolls, based on property ownership, indicate that architects in Perth invested heavily in real estate. Some, like F. W. Upton, acted as mortgagee for speculative builders.
social advantage. Property owners were continually writing to their council asking that a road or footpath be laid outside their property.\textsuperscript{72} The allocation of funds for roadworks was very competitive and at least one Perth City Councillor, T. G. Molloy, was publicly accused of using the influence of his office to ensure a road was laid outside one of his many speculative properties in West Perth.\textsuperscript{73} A local council was not legally authorised to spend funds building private roads, but political pressure from ratepayers and the need to improve the standard of private roads, forced the councils to request the legal right to take control of private roads, which the state government granted in 1898.\textsuperscript{74} Subsequently many estate owners, as well as local residents, were more than eager to ask the Perth City Council to take control of their private roads, as this relieved the estate developers of the financial burden of paying for the macadamizing of their roads. In most cases Perth City Council would take control of a private road only on condition that the estate owner pay 50\% of the cost of building the road.\textsuperscript{75} As a result of this legislation there were soon very few private roads within the city boundaries.

By 1906 the state government found it had passed and amended numerous Acts relating to local government and the legislation was now unwieldy. The state government undertook a major overhaul of the \textit{Municipal Institutions Act} and all other legislation pertaining to local government, replacing it with the \textit{Municipal Corporation Act}, which consolidated previous acts.\textsuperscript{76} The new act made local government legislation easier to comprehend and administer, however, its real benefit was administrative rather than regulatory.

\textsuperscript{72} R. G. Durston, a few months after building his house in Cleaver Street, West Perth, wrote the PCC requesting the provision of a footpath. His request was successful and the PCC allocated £50 for building the footpath. Many other ratepayers were less fortunate. PCC Works Committee Minutes (1904-07), p.249 (5 February 1907).

\textsuperscript{73} Report of Annual General Meeting, PCC Minutes, 13 November 1893, p.145.

\textsuperscript{74} \textit{WA Statutes}, 1898, 62 Vic.26, Section 3.

\textsuperscript{75} PCC Minutes, 26 November 1900, p.166. George Throssel wrote requesting that control of Glendower and Throssel Streets be taken over by the Perth City Council. The Council agreed to this request, but it was conditional that Throssel pay 50\% of the cost of the necessary roadworks.

\textsuperscript{76} \textit{WA Statutes}, 1906, 6 Ed. No.32, \textit{Municipalities Act}. 
3.5 Health and Sanitation

The most pressing piece of legislation required in this period was that governing a suitable means for the disposal of sewerage. Despite numerous health epidemics in the 1890s it was an issue successive governments were unable or unwilling to tackle. In 1903 the editor of WAMBEJ complained that "almost every policy speech delivered by the Government which happens to be in office has embraced the subject", but there had been an obvious lack of action on the issue. Reasons for the lack of government action were twofold; pressure on government expenditure and political instability. A deep drainage sewerage system would be expensive to construct; it would require hefty expenditure by both property owners and government. Moreover government funds committed to a large metropolitan project would be at the expense of funds available for rural purposes. For a government trying to maintain political power the introduction of an expensive deep sewerage system in Perth was not a high political priority. The government was caught in a difficult situation. The recent completion of the Goldfields water pipeline demonstrated the engineering capability available in the state; the sewerage project was structurally and technically feasible. But having taken on the debt for the Goldfields pipeline the government was reluctant to burden tax-payers with another major engineering debt. As a compromise, the WAMBEJ editor suggested the government implement the new septic tank system, successfully tested at Government House. This innovative system was favoured, because it could be introduced independently of the street drainage system and therefore it would not be too expensive.77 Apart from the pressing health issues it was essential that the government establish a policy on sewerage disposal, because architects were already privately installing septic tanks, but in an arbitrary fashion. This prompted the WAMBEJ editor to express concern that "no apparent systematic rules seem to have been laid down or followed, each architect following out his own ideas or working from different sources."78 However, these comments might not have been accurate. Three months earlier, prompted by the owners of the Weld Club and Forrest Chambers who wished to install septic systems in their city buildings, Perth City Council requested its City Engineer, Health

77 WAMBEJ, 5 September 1903, p.10. In 1903 the use of septic tanks was a relatively new innovation in Australia and the rest of the world.
78 WAMBEJ, 16 July 1904, p.19.
Officer and Building Surveyor to prepare a standard plan for the construction of septic tanks, which they did in a fortnight.\textsuperscript{79} It was a hurriedly written set of general regulations, but it specifically made provision to ensure a deep sewerage system overrode the use of any private septic tanks. The introduction of a septic tank system removed the necessity of having noxious smelling pans and this meant the water closet could be relocated at least to the back of the house, if not inside the house, rather than placed down the back of the garden. As a well travelled citizen, F. W. Illingworth, was not offended at using a W.C. located adjacent to the sitting room in Amsterdam and architect Michael Cavanagh suggested that in a large house the W.C. for use by visitors should be ideally located off the front hall, but ordinary citizens of Perth would need some years before they were convinced that such practices were both hygienic and socially acceptable. As long as most households still relied on the night carter to empty their toilet pans then the proper place for the closet was at the back of the property. When properties were eventually connected to the deep sewerage system economics and old thoughts won through and, generally, the W.C. stayed where it was commonly expected to be, as far out the back as possible.

In 1905 prominent architects Temple Poole and Cavanagh proposed a scheme involving the use of septic tanks to solve Perth's sewerage problem.\textsuperscript{80} Despite the government's lack of response to the Cavanagh-Temple Poole proposal the debate surrounding the introduction of a sewerage system continued throughout 1905, focussing on the issue of health. Cess pools and toilet pans, apart from their smell, still presented a danger to public health and the government was expected to do something about it. The \textit{WAMBEJ} printed a number of articles on the topic, including "The Collection and Disposal of Sewerage and House Refuse" by John Kemp, the Brisbane City Engineer\textsuperscript{81} and "Biological Treatment of Sewerage" by A. Morry, an officer of the Queensland Department of Works.\textsuperscript{82} Other capital city councils had faced a problem similar to that of Perth and therefore their officers were able to provide

\textsuperscript{79} PCC Works Committee Minutes (1904-07), p.373 (12 April 1904) and p.376 (28 April 1904).
\textsuperscript{80} \textit{WAMBEJ}, 15 July 1905, p.11.
\textsuperscript{81} \textit{WAMBEJ}, 16 September 1905, p.18.
\textsuperscript{82} \textit{WAMBEJ}, 28 October 1905, p.21.
the necessary technical information to forcefully pursue the argument with the West Australian government. The government sought advice from interstate, employing J. Davis from the New South Wales Department of Works, to devise a sewerage and stormwater system, which was finally given government approval in early 1906. Later that year, the Treasurer's budget speech referred to "the carrying to a successful completion of the great metropolitan sewerage scheme, which is going to prove such a healthful advantage to Perth and Fremantle."83

The Cavanagh-Temple Poole sewerage proposal confirmed Cavanagh's public reputation in this field and with the introduction of a deep sewerage system in Perth he supervised the building of sewerage connections on numerous estates, including the fifty residences bounded by Goderich, Wellington, Hill and Bennett Streets, owned by the New Norcia Mission, and the seventy four residences on the Colonial Finance Corporation's estate in Brookman, Moir and Lake Streets.84 Eventually, when the state government consolidated its water and sewerage services in 1909, Cavanagh's expertise in this field was recognised with his appointed as an inaugural member of the Metropolitan Sewerage and Drainage Board.

The general attitude of the architectural profession in Perth to the issue of health and sanitation and its impact on residential design was perhaps best summarised in a paper presented to the WAIA on the subject of "Healthy Homes" by P. W. Harrison in August 1904.85 His paper covered issues very similar to those previously presented by G. Gordon in Melbourne in 1890. It is quite likely that Harrison, who had been practising in Melbourne when Gordon's paper was presented and published, was familiar with the issues Gordon raised.86 Harrison believed foremost that "the primary objects to be obtained are the health and comfort of the inmates." His initial concern for the design of a healthy home was the soil condition. Like many other architects,

84 WAMBEJ, 12 May 1906, p.18.
85 P. W. Harrison, "Healthy Homes", WAMBEJ, 3 September 1904, pp.18-20.
86 G. Gordon, "Household Sanitation", Report to the Australasian Association for the Advancement of Science, BEJ, 8 March 1890, p.88.
Harrison accepted the commonly held belief that damp soil conditions were the cause, rather than the symptom of disease, therefore his solution to the problem was to recommend to clients that they avoid sites with damp soil (it was advice such as this which ensured that the wealthy continued to favour elevated sites for their housing lots). Harrison believed the aspect of the site was important in that it should permit sunshine to enter as many rooms as possible during the daylight hours. Winds were an asset; they could be utilised to ventilate the house, but the architect must also ensure that smells from the kitchen would be blown out rather than into the house. "The object of ventilation is to enable us to assimilate the condition of air indoors, as nearly as possible to that of outdoors", therefore all rooms should have "centre flowers" (ceiling roses) connected to air shafts. However the presence of flies, mosquitoes and insects necessitated the use of "the (fly) wire door."

Harrison stressed that it was important to allow air to circulate through the foundations to combat dampness under the house, external walls should have a cavity to avoid penetration of damp, while the design and construction of the roof and drainage was important for similar reasons. These suggestions, already enacted in the building by-laws, should have been well understood by his audience, which raises the question of whether Harrison intended his paper to be read by a wider, less knowledgeable, audience.

As for the provision of services, Harrison believed a constant supply of fresh water was an important health consideration, although this was still difficult in Perth, where the supply of piped water was neither commonplace nor regular. Wealthy residents in West Perth and Mount Lawley prudently relied on windmills and tank water for part of their regular water supply. Although Harrison mentioned sanitary plumbing, suggesting that the pipes for sinks, baths and lavatories should be exposed and therefore accessible for cleaning, he made no comment on his preferred location of the kitchen and bathroom. However on the issue of lighting Harrison was quite specific; lighting, whether candles, oil lamps or gas, was conducive to bad effects, being more or less dangerous in use, contaminating the air and smoking the walls and ceilings,
therefore while electricity was more expensive it was Harrison's preferred source of lighting. In the following years this was to be the principal line of argument in favour of switching from the use of gas to electricity.

"Therefore I consider the healthy home should be built with care and planned with a special reference to the wants and necessities of the families whose lives are to be spent under its roof; built in accordance with the times and of modern style - a home where manly virtues grow strong and flourish and which our children will ever remember in after years with pride", Harrison concluded. It was a grandiloquent statement and possibly a good summary of the architectural and social philosophy of a forty year old architect educated in London, trained in Melbourne and a leading professional in Perth. Implicit in Harrison's paper was the belief that the design of domestic architecture should consciously respond to the growing body of scientific knowledge on soil conditions, ventilation and sanitation. As such, Harrison's talk on the design of healthy homes was both timely and educative. Two years later Temple Poole was wrote a similar article, in which he emphasised that the design of a house should take into account porosity of soil, aspect of site and local temperature. In Poole's paper the scientific tone was quite explicit; architectural design was expected to be guided by the principles of health and sanitation science. In much the same manner as domestic science would be cited later to justify changes in the design of kitchens, so health and sanitation science was used in Perth to change methods of construction, prompt the introduction of sewerage systems and gradually change the design and location of bathrooms and toilets.

3.6 Housing Finance

A combination of high wages, steady employment and high rents traditionally stimulates the housing industry in Australia, making it possible for a large number of families to buy their own house.  

87 G. Temple Poole, WAMBEJ, 4 August 1906, p.15.
Occasionally there are periods of high unemployment and low wages, at which time repaying the mortgage is difficult and home ownership is a less attractive proposition.

In the late 1890s the housing industry collapsed in the economically depressed eastern states of Australia, but in Western Australia the gold based economy continued to steadily expand and attract investment capital, much of it invested in housing. In 1903 the editor of the WAMBEJ confidently noted that "by the number of large buildings, both warehouses and private houses, that the various architects have in hand, it is shown that investors have still great confidence in the stability of Perth." It was possible for a worker to find steady employment and earn a good wage, but the effects of the massive increase in population in the boom years was still evident and housing rents were still high. In 1898 an article in the Western Mail on building societies and investment noted that a terrace of small cottages returned a greater annual interest to the owner than a mansion in St George's Terrace. In Perth a working man's cottage rented for "twice or thrice the amount a similar cottage would command in the suburbs of Adelaide, Melbourne or Sydney." By 1900 the pressure of the boom on housing had reduced, but rent levels were considered to be relatively high. In 1901, J. T. Reilly, one of the founders of the Perth Building Society, wrote in his autobiography that "house rent however is a serious item for working men in this colony, as it makes a large demand on their weekly wages." An unskilled labourer earning seven or eight shillings per day in Perth could expect to rent a two room cottage for eight shillings per week and a four roomed cottage for between twelve and fourteen shillings. Rents generally averaged between 20% and 25% of wages, but a housing loan for £150 at 5% interest repaid over five years would cost about 14s 6d per week. Given the marginal difference between high weekly rent and repayments of a housing loan, home ownership became an attractive economic proposition to the many skilled workers who earned good wages. In 1903 R. M. Hamilton reported that "labour is very dear in the building trades" in Perth; a skilled plasterer earned up to 11s 3d for an eight hour day and a

89 WAMBEJ, 24 January 1903, p.19.
90 Western Mail, 22 July 1898, p.35.
91 J. T. Reilly, Reminiscences of Fifty Years in Western Australia, p.460.
92 Yearbook of WA (1901), p.185.
Inexpensive residential lots were readily available and the cost of building, particularly if the owner could subcontract or build the house himself, was still reasonable. In 1903, a seven room villa on a 15 metre frontage in Altona Street, West Perth, cost £1,100, but it was possible to buy a new five room villa in Chatsworth Road, North Perth for £500, a quarter acre lot in Venn Street, North Perth, for £30 (£35 on terms), or a building lot in Victoria Park for £7 to £10. A weatherboard house of six rooms in Subiaco, renting for 11 shillings per week, was for sale at £175. As late as 1905 Perth City Council was issuing numerous building licences for two room timber houses, in the less expensive parts of East Perth and North Perth, estimated to cost only £80. For a person with a steady job and reasonable income buying a house in Perth was an affordable alternative to renting.

A notable example of high rents persuading a family into home ownership is the case of Joseph Furphy, better known as Australian writer Tom Collins, who left Victoria in 1905 to join his two sons, the owners of a boilermaking firm, in Fremantle. Furphy found his sons living in rental accommodation in Fremantle and paying rent he thought was "out of all proportions to wages and business profits", but he wrote, philosophically, "high rent, of course, was undesirable, but it is an infallible sign of general prosperity." Rather than continue to pay high rents, Furphy's immediate response was to buy a quarter acre lot in Servetus Street, Swanbourne, where he built his own house. Then he built houses for his sons in nearby Clement Street. Many lesser known citizens of Perth, finding themselves in similar financial circumstances, followed the same course.

House builders were greatly assisted by the low level of inflation and the stability in the prices of building materials. In 1904 the WAMBEJ, remarked that "suppliers of materials do not charge exorbitant prices for

94 West Australian, 1 January 1903, p.7.
95 Letter, March 1905, cited in Jean Lang, At the Toss of a Coin, p.7
their goods and do not increase their prices to any extent, the majority of the building lines being stationary."96 This was still true a decade later when many building materials were listed at a similar price, or, as in the case of terra-cotta tiles, at a slightly cheaper price. If there was one area where building costs were likely to escalate it was the cost of labour, as building unions pushed for higher wages, but for the moment housing costs in Perth remained steady.

In 1905 a contemporary rule of thumb for estimating the cost of constructing a house was that the house should cost six times the value of the land.97 NG Butlin has calculated that, excluding the cost of land, the cost of building a house was approximately twice the owner's annual income.98 Putting these two calculations together gives a land and house package costing approximately two and a quarter times annual income. This overall cost compares most favourably with the current situation in Perth where the average cost of land and house has risen to nearly four times the average annual income.99

Workers wanting to acquire their own house were eagerly assisted by the banks and building societies in Perth. Many directors of financial institutions saw their role as being more than one of merely lending finance. Arthur Scratchley, an authority on building societies, was quite frank in stating his support for utilising home loans for purposes of social manipulation. "This pecuniary interest serves at once to bind them (workers) to the soil and to promote feelings of love and veneration for the national institutions of their country", was how he described it.100 Home loans were good for the moral well being of the country, as well as the profits of banks and building societies. In the early 1900s, home ownership in Perth was encouraged as a commendable social goal by

96 WAMBEJ, 23 July 1904, p.18.
100 Western Mail, 22 July 1898, p.35.
3.7 Climate and the Verandah

The verandah has long enjoyed an image as being a quintessential element of Australian domestic building and this was well recognised by architects and builders at the turn of the century. The distinctive climate of Australia was an obvious starting point for any development of a unique Australian architecture. Beginning with the arrival of the first settlers, builders and designers have tried to come to terms with the marked climatic difference between Britain and Australia. The Georgian and vernacular (country cottage) architecture, with which the settlers were so familiar, was designed to suit the cold climate of northern Europe, not the warm temperate climate of southern Australia, therefore it was necessary for climatic adjustments to be made in the design of the house.

The verandah was introduced to Australian architecture as the principal means of moderating the hot climate. The initial response of settlers was to fall back on their previous experience and limited knowledge of dealing with hot climates, knowledge largely based on colonial experience in India and Africa. Placed right around the perimeter of a house in the manner of the Indian bungalow, the Australian verandah shaded all the rooms, while protecting the external walls from damage by heavy rains. Freeman states there is little evidence of attempts to actually modify the familiar British housing model. For many years houses in Australia, particularly in Western Australia, retained their basic Georgian symmetrical shape. Later, in the mid-nineteenth century, as architects and their clients in the large Australian cities became more interested in imitating stylistic developments in Britain the influence of climate declined as a prime design consideration. Increasingly, the verandah, placed across the front of the house, irrespective of orientation, was

101 A. D. King, The Bungalow, includes an account of the development of the bungalow in Australia, pp.224-243.
utilised less to combat the hot climate and more for its formal qualities. By the 1880s the widespread popularity of the verandah as a decorative element was such that it came to be identified as an integral part of the design of the Australian house. In 1890, T. A. Sisley noted that "the verandah stands first among the distinctive exterior features of the Australian home."\(^{103}\) A few years later Michael Cavanagh wrote "the public mind is so wedded to the use of the verandah that the question of orientation was apparently seldom taken into account."\(^{104}\)

In the 1890s the issue of climate and its potential to positively shape architecture in Australia was raised by architectural writers and numerous references to this issue appeared in the architectural and building journals. Melbourne's *Building and Engineering Journal*, in announcing a series of student architectural design competitions, emphasised that "a special point with the adjudicators will be climate, for we must bear in mind that we are designing for Australia and the designs must be suitable for the climate in which we live."\(^{105}\) Some months later the same issue was reinforced in Sydney's *Australasian Builders and Contractors News*. In an editorial related to Australian colonial architecture the editor wrote that "no one need pause for a moment to reflect upon what might constitute the leading features of the Australian architecture so far, at all events as it relates to dwellings and villa residences. In a warm climate the chief aim to be sought is coolness". He went on to suggest that all living and sleeping apartments must be spacious and lofty, while roomy verandahs "are a necessity under our climate."\(^{106}\) One month later, in an article on "Australian Domestic Architecture", Sydney architect Howard Joseland reinforced the view that climate was a dominant force that had to be tackled in the design. He recommended against the use of Queen Anne dormer roofs, on the basis of the lack of snow in Sydney, and he also argued against the inclusion of the fashionable British trend for cosy corners and warm inglenooks, again on the grounds that they were climatically inappropriate. Instead, Joseland recommended architects design to

\(^{103}\) T. A. Sisley, "The Australian Home", *BEMJ*, 20 December 1890, p.447.  
\(^{105}\) *BEJ*, 26 October 1889, p.367.  
\(^{106}\) *ABCN*, 16 August 1890, p.119.
ensure climatic comfort, by incorporating lofty rooms with high ceilings.\textsuperscript{107}

The significance of the verandah and its role both as a climatic and stylistic device in Australian architecture was such that Michael Cavanagh, in 1893, presented a paper titled "The Treatment of the Verandah in Australian Architecture" to the South Australian Institute of Architects.\textsuperscript{108} Cavanagh noted that because the verandah was something which "our (Australian) people always expected to see" it had become "a most prominent feature in our domestic architecture", but while he accepted that the use of the verandah was rendered necessary by the climate and contributed so much to one's comfort, Cavanagh warned his audience that the public perceived the verandah to be the panacea for climate control. He suggested there might be other, more effective, means of addressing the climatic problem, including a better utilisation of site orientation. Wrapping a verandah all around a building, as was common practice, he believed was a mistake, resulting in the building being "cold and draughty", not to mention dark. Having argued a strong case for primarily using the verandah for utilitarian purposes, Cavanagh went on to acknowledge the formal role the verandah might play. The verandah, he said, "would greatly aid the picturesqueness of Australian architecture", recommending the unbroken continuation of the roofline out over the verandah, in the manner of the homestead, rather than the typical separate, lower, verandah roof of the Italianate villa.\textsuperscript{109} Cavanagh suggested the clear visual expression of the roof mass could be achieved by changing the roof pitch over the wallplate. (Fig.3.11)

There were few new ideas in Cavanagh's talk. He was commenting on issues which a number of architects were already practising, however two

\begin{flushleft}
108 This paper was later reprinted in ABCN, (29 August 1893), p.144.
109 See Conrad Hamann's "Nationalism and Reform in Australian Architecture, 1880-1920", Historical Studies, August 1979, pp.393-411. Hamann cites several examples of houses, published between 1887 and 1893, prior to Cavanagh's speech, dominated by a hipped roof, descending in a single gradient or into a reduced angle.
\end{flushleft}
points should be made about his speech; firstly, the suggestion that better use be made of the orientation of a building on site. While theoretically sound as a means of climatic control, the idea ran counter to a social desire to have a set of prominent 'public' rooms facing the street and, therefore, had little chance of implementation. Secondly, although it was not his intention, Cavanagh's closing comments highlighting the picturesque characteristics of the verandah served to reinforce the verandah's popular formal role, while undermining his argument for its functional role. On this point Cavanagh might have reflected the general ambivalent attitude toward the role of the verandah in Australian domestic architecture. It is a problem that continues to the present.

In Perth the verandah served a function other than as a climatic or decorative device. R. M. Hamilton remarked that the warmth of the
climate in Perth induced the habit of sitting outside a great deal during the evenings; "people read, work, talk, or play cards under these verandas, making an open-air sitting room of them"; therefore there was a demand that the verandah be of ample width, "seldom less than seven and often nine feet [2.7 metres]". Hamilton, with his usual concern for social decorum, also noted how in using the front verandahs local considerations of comfort and enjoyment apparently outweighed any (British middle class) dislike of residents being overlooked by passers-by.\textsuperscript{110} Acknowledging this widespread use of the verandah, a number of architects made recommendations that this function be more positively encouraged. In 1904 Perth architect P. W. Harrison argued against locating the sleepout "on the back verandah", instead he suggested that it should be seen as an adjunct to the bedroom. "It should be conveniently situated and secluded so as not to necessitate a long walk down passages to gain access thereto."\textsuperscript{111} In 1907, Sydney architect John F. Hennessy promoted the use of the verandah even further than Harrison, proposing what he called "the Australian room."\textsuperscript{112} It was to be a large (7.3m x 4.87m) area, roofed and walled on the west, partially walled on the south and north and, presumably, fully open on the east. An "ideal living room - healthy, cool in summer and an area for the children to play under cover in winter", suggested Hennessy. The idea sounded like this "room" might be similar to some of the outdoor spaces American architect F. L. Wright had provided under the sprawling verandahs of his Prairie Houses in the preceding decade, but Hennessy's plan illustrating the idea was not quite so dramatic, if anything it was more of an upgrading of the commonly used verandah/sleep out. In Tuckfield Street, Fremantle, a pair of houses, designed by Allen and Nicholas in 1913, have areas at the back of the house with dimensions that indicate they were specifically designed to be more like rooms than just enclosed verandahs and in North Perth, between 1914 and 1916, David Garcia built three houses (Fig.5.14) which have fireplaces in this area, but these designs are of interest primarily because they are atypical. The closest thing to an outdoor room in most

\textsuperscript{111} P. W. Harrison, "Healthy Homes", \textit{WAMBEJ}, 3 September 1904, pp.18-20.
houses was the enclosing of the space between the kitchen and the wash area across the back verandah.\textsuperscript{113}

Associated with the use of verandahs was the issue of aspect and the orientation of the principal rooms of the house, as additional means of moderating climatic conditions.\textsuperscript{114} Due to the general lack of concern by builders and architects for orientation many houses were built with rooms which were either in perpetual twilight or full sunlight, neither of which was satisfactory. By 1907 sunlight and fresh air were regarded as important elements in the design of a healthy home and had to be balanced against the problem of heat penetration. It was suggested that in Australia the principal rooms be orientated to the north east or south west, with a recommendation that if rooms had to face a cardinal point then deep verandahs should be used to shield the walls from direct sunlight. This suggestion, while quite rational, cut across the emphasis placed on arranging the house plan so that the 'public' rooms faced the street. It was suggested that the inhabitants would be better served by having the living areas face the privacy of the rear garden. While this was a recommendation with which many architects might rationally agree, it was one which, for social reasons, few clients would accept, and this ensured it remained no more than an architectural ideal.\textsuperscript{115}

3.8 Building Industry

While importers of building materials were assured of a ready market for their goods, the continuous and heavy demand for building materials in Perth made it economically viable for merchants to establish timber yards, hardware stores and local manufacturing plants to supply the building industry. Within a few years Perth developed a more specialised

\textsuperscript{113} Sydney Jones went even further in his push for the design of an Australian outdoor living space, proposing the use of flat roofs on houses to provide outdoor eating and sleeping areas. G. Sydney Jones, \textit{Art and Architecture}, Vol.4, No.6, (1907), p.223. Jones did eventually build some flat roof houses in Sydney to demonstrate his point, \textit{The Salon}, Vol.1, No.4, (1913), pp.279-280.

\textsuperscript{114} "The Ideal Australian House", \textit{Art and Architecture}, Vol.4, No.1 (1907), p.12.

\textsuperscript{115} This conflict between architectural design based primarily on rational theories and one which encompassed the social desires of clients often creates tension between architect and client.
and structured building industry. The expansion of the building industry was such that by 1904 it was estimated that 20,000 people in Western Australia were dependent on the industry's well being.\textsuperscript{116} During the construction of the Shenton Park Hotel in 1907 the building contractor W. Fairweather listed in his ledger payments to thirty building suppliers. He also recorded payments to carpenters, painters, tuckpointers, plasters, joiners, bricklayers, tilers, masons, granolithic workers, a drainer and a graver.\textsuperscript{117}

With the building industry playing such a significant role in the state's economy local politicians were increasingly conscious of the impact the imposition of tariffs on building materials would have on the cost of houses. They had to weigh this concern against the need to encourage the growth of local industry. In this period of consolidation these conflicting objectives were reflected in parliamentary debates on the supply, cost and quality of the major building materials; particularly bricks, timber and corrugated iron.

Although there were numerous brick manufacturing businesses in Perth, the quality of local bricks was the cause of parliamentary debate. The demand for bricks to be of a uniform size and consistent coloration grew in response to architects placing a greater visual emphasis on brickwork in their new buildings. Problems associated with locally produced bricks came to the fore in 1898, in a row over the use of 300,000 bricks imported from Victoria in the construction of the new office for the Bank of New South Wales, designed by well known Victorian architect William Salway. At the time locally manufactured bricks cost £2/6/0 per 1,000, while imported bricks, carrying a hefty import tax, cost £3/17/0, but despite the extra cost Salway insisted on using imported bricks to ensure the finished quality of the building. Walter James, MLA, concerned about the impact the importation of so many bricks would have on the local economy, defended the standard of locally produced bricks and to support his argument indulged in a classic example of "T'Othersider bashing", claiming "the architect of this new bank is one who has been in

\textsuperscript{116} WAMBEJ, 9 July 1904, p.19.
\textsuperscript{117} W. Fairweather, Contract Ledger (1907-1917), pp.1-2.
this colony only a short time and he came here with all the intense narrow mindedness and prejudice against local productions which are so glibly attributed to Western Australians, but are nevertheless practised very largely by persons who come here with strong prejudices in favour of some other place as against this colony."118 Defending Salway, Illingworth, a fellow Victorian, claimed that "anybody who understands bricks, knows very well that nine tenths of the bricks made in Western Australia are in no degree equal to the imported bricks."119 On this point he was supported by fellow MLA, W. J. George, who stated that while "machinery and men were now in the colony and a really good brick could be made", there still appeared to be a problem with the load bearing quality of the bricks.120 The quality of brick production did not improve until 1903, when the WAMBEJ reported that a new brick making machine was in operation in Perth, producing 12,000 bricks per day, "using the labours of one man and three lads (European)"; the result was a solid brick described as being similar to superior handmade bricks.121 Apart from the question of the quality of bricks there was also the question of the range of locally available bricks. Moulded bricks were not manufactured in Perth, therefore any fancy brickwork, as might appear in the style of the Art Revival, had to use expensive imported moulded bricks.122 Therefore architects, with their clients keeping an eye on building costs, were more likely to utilise mouldings executed in stucco over projecting brickwork, rather than moulded bricks, for decorative purposes on the exterior of their houses.

Timber became the focus of parliamentary attention in early 1902, when the state's leading timber companies were reported to "have agreed to a combination to trade under the same rules of their own."123 Charles Harper, who raised the matter, feared the establishment of a timber cartel would result in rising prices for domestic timber. The timber

118 PD WA 12 1898 440.
119 PD WA 12 1898 436.
120 PD WA 12 1898 1268. The load bearing quality of Perth bricks, while of concern in commercial architecture, was of less concern in domestic buildings, the majority of houses in Perth were single storey and therefore bricks were not required to carry heavy loads.
121 WAMBEJ, 17 January 1903, p.15.
123 PD WA 21 1902 367.
companies in Western Australia, largely owned by British shareholders, wanted to raise local prices to compensate for the decline in prices in their principal market, timber exports. "Therefore", Harper concluded, "a working man who desires to build a cottage (in Perth) has to pay a toll to shareholders residing in London." The timber companies argued that for many years local timber prices had been subsidised by high export prices, but Harper rejected this suggestion. To counter the actions of the timber companies he proposed the government take possession of the export timber waste, which timber mills usually burnt, and have city mills cut it up for cheap domestic scantling. Harper's concern for the erosion of competitive pricing of local timber products was realised in 1904, when Millars Karri and Jarrah Co., Coombe Woode & Co., J. M. Ferguson, Bunning Bros, Whittaker Bros and Franklin and Finlay formally established the Timber Merchants Association, but the association, aware of government concern, was careful not to force up timber prices.

The range of stock joinery available from the timber merchants was most extensive; imported baltic and oregon pine, four panelled doors, door frames, box frames and sashes, fanlights, casement sashes, pickets, planking, laths, lattice, mouldings, skirting and architrave.124 Bunning Brothers advertised their capacity to suit the requirements of "joinery work of every description for public buildings, banks, churches, mansions or cottages."125 To keep housing costs to a minimum builders did little to vary the standard house plan, but out of the wide variety of stock timber building products readily available at joinery stores it was possible to choose details and finishes which combined to give each house its own particular identity. This practice resulted in suburbs having streetscapes exhibiting a strong unity of form, when viewed from a distance, but on closer inspection it is evident that each house was detailed in an individual fashion. (Figs.3.12 & 3.13) (The exceptions were speculative builders, who, when constructing two or perhaps three houses at one time, kept their costs down by buying in bulk and repeating the same details in each house.)

124 Over the decade Whittakers continuously ran a small advertisement listing their range of stock timber products on page one, or two, in the West Australian.
125 Battye, PR 5732 (1-3), Bunnings Timber Price List 1916.
Figs. 3.12 & 3.13
Houses, Subiaco, c.1905. The presence of hundreds of these houses, which share similar plans, form, materials and construction, established the uniformity of Perth's suburban streetscape, but on closer inspection the individuality of each house is established through the detailing.
Corrugated iron sheeting was one of the most widely used building materials in western Australia at the turn of the century. A considerable number of houses, particularly in the goldfields, were clad, as well as roofed, in iron sheeting. (Fig.3.14) The structural advantages of iron sheeting, as well as its ease of transport, were recognised by builders, politicians and the public. Custom Orb had 40 years of use in Australia and was widely regarded as a "sound and good" material. In Perth, where it was reported to be given two coats of white paint or a refrigerating compound to reflect some summer heat, corrugated iron was the universal roofing material.\footnote{R. M. Hamilton, "The City of Perth, Western Australia", RIBAJ, Vol.XI, 7 November 1903, p.18.} In 1898 there was heated debate over an import tariff of 20 shillings per ton on corrugated iron; any increase in its cost would have widespread consequences for the building industry. It was argued that the tariff was imposed to encourage the use of local timber, rather than iron sheets imported from the eastern states. The tariff was imposed, but the high level of use of corrugated iron continued. In 1903, concern was expressed regarding J. Lysaght & Company's virtual monopoly on the importation of corrugated iron sheeting into Western Australia and what effect this might have on the pricing of this extensively used material. The concern was well founded. Over the next ten years the price rose from £18/5/0 per ton to £20/7/6, a 101/2\% increase in a period of lower wages.\footnote{Western Mail, 11 December 1896, p.24.}

The most significant addition to the range of building materials available in Perth occurred in 1897. In late December 1896 the Western Mail carried a small "Important notice to Architects and Builders", announcing the impending arrival of a cargo of half a million terra-cotta Marseilles roofing and ridge tiles and 50,000 flooring tiles on board the steamship Antares. Terra-cotta tiles, described as a "favourite Roofing Material", were promoted as being most "suitable for Hot climates."\footnote{Western Mail, 11 December 1896, p.24.} The following month, a subsequent advertisement placed in the West Australian by Charles Dunkley, the Perth agent for Wunderlich Patent Ceiling and Roofing Company, announced the arrival of the Antares in
312 Charles Street, North Perth. A very inexpensive house with corrugated iron cladding and roofing, c.1905. This housing type was usually found in the goldfields, but some were later transported to Perth.

2 Parker Street, South Perth. A later example of a more expensive house, featuring a gable of terra-cotta shingles.
Fremantle, but from the lack of any further public notices it would appear he quickly sold all the tiles.\textsuperscript{129} The Wunderlich Company had been involved in the importation of terra-cotta tiles in Sydney since 1892, where the tiles enjoyed enormous popularity and it was hoped this popularity would be repeated in Perth. Terra-cotta tiles, an important component of the Art Revival style, were soon reported to be on "the roofs of the better class of house" in Claremont, Perth, West Perth and Mount Lawley.\textsuperscript{130} Timber shingles were occasionally used as a roofing material in Perth. The four weatherboard, Arts and Crafts styled, cottages at the top of Malcolm Street, West Perth, (demolished in late 1991) being the obvious examples, but timber shingles were generally regarded as rather rustic and a fire hazard and therefore not widely used. The choice of roofing material in Perth was effectively restricted to slate, terra-cotta or corrugated iron sheeting. Imported slate was expensive, ranging from £13 to £15 per 1,000 pieces and was used sparingly in Perth. The new Marseilles terra-cotta tiles, priced at £12/10/0 per 1,000 tiles, were slightly less expensive than slate, easier to lay and fashionably new. Terra-cotta tiles became the popular choice of roofing material amongst architects and their wealthy clients. Whereas corrugated iron (Orb, 26 gauge), priced at £18/5/0 per ton, remained the most widely used roofing material in Perth.\textsuperscript{131}

The popularity of the Art Revival style created an increasing demand for terra-cotta tiles in Perth, but the tiles, imported from France, were expensive. Attempts to locally produce terra-cotta tiles were generally unsuccessful and locally produced tiles acquired a poor reputation. Brick manufacturers claimed the local clays were not fine enough and the necessary firing kilns were not available in Perth. The weakness in the local product was dramatically illustrated in the early 1900s when locally manufactured terra-cotta tiles fixed on the roof of the new parliament building performed so poorly that they were removed and replaced with French imports.\textsuperscript{132} The poor performance and reputation of local roofing tiles virtually guarantied the Wunderlich Company a market monopoly

\textsuperscript{129} \textit{West Australian}, 30 January 1897 p.7.
\textsuperscript{131} \textit{WAMBEJ}, 5 November 1904, p.18.
\textsuperscript{132} H. Bowley, \textit{JRSAW}, No.26, (1940), p.185, see also p.155.
and it continued to import terra-cotta tiles from Marseilles until 1915, when the war in Europe halted imports. By then the widespread local demand for terra-cotta tiles, even for the lowliest of houses, and improved manufacturing technology made it economically viable to locally manufacture terra-cotta tiles in Perth. After 1917 Western Australia had no need to import tiles again.133 While experiencing difficulties with producing roofing tiles some pottery works, such as the Westralian Pottery Company, were more successful in producing terra-cotta shingles and moulded decorative tiles.134 Due to their high expense these products were used on a limited number of commercial and public buildings, the most prominent example being the walls of the old Art Gallery in Beaufort Street. Terra-cotta shingles had limited domestic appeal and were not widely used, although examples can still be seen in the gables of a few large expensive houses in Claremont, South Perth and West Perth. (Fig.3.15)

The increasing popularity of terra-cotta tiles as a roofing material was to eventually lead to the demise of corrugated iron sheeting as a domestic roofing material, in the 1920s. This shift in public perceptions was assisted by continuous favourable references to terra-cotta tiles in building journals. Comparisons with building practices in the eastern capital cities effectively played on local desires to be seen to be up to date. A typical example of this shaping of perceptions in the building trade appeared in the WAMBEJ in 1904; "Nine tenths of the good class of residences in and about Sydney have adopted this material for covering from the effects of the weather. In the West the vogue is mostly for iron, but Sydney and its suburbs has gone almost entirely in favour of tiles. No doubt in the course of time this modern style will be more general in the West."135 Spurred by similar comments the popularity of terra-cotta tiles in Perth continued to increase, even at the lower end of the housing market.

133 The increased popular demand for terra-cotta tiles in Perth was assisted by their competitive pricing. In 1913 the price was only £2/5/0 per square, fixed, compared to £2/10/0 in 1904. "Prices Current", WAMBEJ.
135 WAMBEJ, 25 June 1904, p.10.
In 1904 another new building material, "Fibro Ciment" (sic), became available in Perth. Manufactured in large sheets, the material was promoted by Melbourne firm, James Hardie, as an economic alternative to corrugated iron roofing and timber wall lining.\textsuperscript{136} Despite an extensive advertising campaign, that emphasised the product's many attractive applications in domestic architecture, "fibro ciment" sheets did not gain a widespread favourable image. Because of its lower cost the material was frequently used on buildings of a semi-industrial nature and this served to reinforce its popular image as being socially unacceptable except for the cheapest domestic construction.\textsuperscript{137} Generally, "fibro ciment" sheeting was not considered an alternative material to brick, nor was it a serious threat to the popular use of timber weather-boards, although it did replace corrugated iron as a wall cladding.

The building boom in Perth attracted a large number of skilled and unskilled labourers to the building industry. Reading the advertisements in newspapers and building journal in the early 1900s, it is apparent that as had occurred in Melbourne in the previous decade the building industry developed a high degree of specialisation as the number of skilled tradesmen increased and the range of available products continued to expand. In 1903 Barnet Bros. proudly announced that they had employed H. H. Eastcourt, a "worker in stain glass", who would "design and execute such a beautiful art in Western Australia."\textsuperscript{138} Three months later the evidence of Eastcourt's artistic skills were to be seen in A. E. Morgan's new mansion, "Gracemere", in Adelaide Terrace. The Morgan house, designed by H. J. Eales, was a summary of all that was new and available in domestic architecture in Perth; amongst its impressive list of features were 18,000 Marseilles tiles on the roof, iron fence railing and gate in front, slate doorstep, decorative stained glass in the hallway and Wunderlich pressed metal ceiling in the dining room.\textsuperscript{139}

\textsuperscript{136} WAMBEJ, 16 January 1904, p.23.
\textsuperscript{137} The tennis club in Loton Park, Bulwer Street, Perth, and a house at 91 Edinboro Street, North Perth, are two rare extant examples of "fibro ciment" shingles used on roofs. "Fibro ciment" sheets tended to be used as a wall cladding of the service areas at the rear of houses, where it was less likely to be seen by the public.
\textsuperscript{138} WAMBEJ, 10 January 1903, p.17.
\textsuperscript{139} WAMBEJ, 6 June 1903, p.18.
Wunderlich's began advertising their patented pressed metal ceilings, available through WH Rocke, in Melbourne in 1890. In promoting their new material, Wunderlich claimed prominent architect William Salway first used pressed metal ceilings in a Toorak house in October 1889 and his example was soon followed by William Pitt and Alfred Dunn, two other leading Melbourne architects. This was an astute example of marketing a new building product, for it immediately established the high status and acceptability of the new material amongst architects and clients. In 1897 Salway practised in Perth, where he designed a number of commercial buildings and large houses, including the Leake residence, although it is unknown if any of these buildings featured pressed metal ceilings. Eales, the architect for the Morgan house, which featured pressed metal ceilings, had worked in Melbourne in the 1890s, at one stage with A. E. Clark, and, together with architects in Perth who had worked for Dunn, Pitt and Salway, he would have been familiar with the use of pressed metal ceilings. The popularity of the material was quickly established. Wunderlich heavily promoted pressed metal products through an advertising campaign in building journals, which continued throughout the decade (Figs.3.16 & 3.17). But unlike their terra-cotta tiles they did not have a virtual market monopoly with pressed metal sheeting. Local manufacturers Splatt Wall & Company was soon producing 465 square metres per day of pressed metal ceiling and selling it for 21 shillings per 100 feet, while Wunderlich's imported material cost 30 shillings. Local manufacturers were able to produce sheeting of comparable quality to Wunderlich's imported sheets. A specific reference to the stamped metal ceiling in the dining room of "Kenderup", J. T. Hassell's new house in West Perth, having been made in the state. With the wider range of building materials available in Perth, whether imported and locally manufactured, architects and builders now had the opportunity to design and build houses of a more individual nature and achieve a quality of detail and finish similar to that found in the eastern states.

140 ABCN, 2 August 1890, p.268.
141 WAMBEJ, 9 April 1904, p.19. Eventually Wunderlich bought the Splatt Wall Company, thereby strengthening its grip on the local market.
142 WAMBEJ, 6 May 1905, p.19.
Figs. 3.16 & 3.17
Wunderlich advertisements. Two examples of different advertising styles used to promote pressed metal sheeting.
(Source: WAMBEJ, 1911 and 1912)
The building industry underwent a series of changes during this period of consolidation as it responded to the development of a more diversified and structured workforce. The number of tradesmen listed in the Perth postal directory as builders and building contractors continued to escalate as the demand for houses increased and less people were inclined to build their own house.\textsuperscript{143} In Perth competition for work amongst the contractors was reported as being very keen. This had the advantage of placing a check on building costs and therefore kept the cost of housing within the financial reach of most people.\textsuperscript{144}

Builders fell into three main groups; contractors who undertook major building projects, such as commercial buildings, large houses, etc., the medium builders who did domestic contract work for architects, but who also did speculative housing and the smaller speculative builders, who usually worked on their own. The middle group, including builders like C. P. Wilson, A. Rennie and A. Toms, who established long term working relationships with particular architects, knew from their architectural contracts the trends in domestic design, construction details and decorative elements and this was then reflected in their speculative houses.\textsuperscript{145} Because of their financial position within the housing industry the speculative houses of these builders were expensive and therefore more capable of closely following the examples of their architectural contracts, so much so that \textit{WAMBEJ} complained of a "breach of etiquette" by a number of builders who used architectural drawings from old contracts as the basis for their own speculative houses.\textsuperscript{146} This impropriety was one of the means whereby new architectural ideas filtered down through the housing market.

\textsuperscript{143} Although it is difficult to make direct comparisons between figures for each year, because of changes in the listing of trades in the postal directory, the increases in listings is still dramatic. In 1893 only 38 builders were listed, this expanded to 348 in 1898, dropped slightly and then rose to 620 in 1908, before tapering back to about 490 in 1914.

\textsuperscript{144} \textit{WAMBEJ}, 22 July 1905, p.21.

\textsuperscript{145} Between 1903 and 1912, A Toms built at least five houses in the Highgate/Mount Lawley area to designs by P. W. Harrison, C. P. Wilson worked extensively with Harold Boas in Mount Lawley and H. Gutherie, between 1903 and 1908, built at least six houses for P. W. Harrison, principally in West Perth.

\textsuperscript{146} \textit{WAMBEJ}, 8 October 1904, p.19.
Of particular interest was the appearance of the speculative builders, as distinct from the building investors of the boom period. The speculative builders or contractors would build a house, find a buyer, sell the house and then proceeded to build another. W. T. Plunkett, whose name is still synonymous with the Perth housing industry, began building houses in Wright Street, Highgate in 1905; Henry Seiler, originally listed in the electoral roll as a coach-builder, began building houses in Carr Street, West Perth in 1906 and in 1917 was building houses in Monmouth Street, North Perth; and J. Skinner, who built houses in North Perth for Harold Boas in 1906, was building for himself in Mount Lawley in 1914. Edward Butt who, in 1906, advertised in the *West Australian* for quotes for brick and stone work, "labour only", was a typical speculative builder.  

Butt owned Lots 31, 32, 33, 34, 35 and 39 in Orange Ave, Northbridge and progressively he built and then sold houses on these lots. (Fig. 3.18) What makes Butt of interest was that he did not simply build the same house again and again, as might be expected. In Orange Avenue, commencing in 1905, he built four pairs of semi-detached cottages, one standard detached villa and then on the corner site, fronting onto the more fashionable Stuart Street, a detached villa of more elaborate detail. (Fig.3.19) The hierarchical arrangement of the houses, governed by the position of the lots and reflected in their market value was an interesting strategy.  

Speculative builders usually worked in their own suburb and often they built simultaneously in a particular street, trying to anticipate market demands for houses in their neighbourhood; in 1906-07 Seiler, E. Lethbridge and H. Gutherie built several houses in Carr Street, West Perth, ten years later Seiler and Russell were to be found building in Hanover (Alma), Monmouth and York Streets, North Perth. But not all small speculative builders built well and in late 1905 *WAMBEJ* warned of the problems of shoddy building; "the owners of property will sooner or later regret having erected badly constructed premises. Tenants may be forced for some time to live in unsuitable houses."  

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148 Successive listings in *WAMBEJ* indicate when Butt was granted a PCC building licence for each lot and PCC Ratebooks (1906-07) show the changes in ownership on completion of each of the houses.  
149 *WAMBEJ*, 16 September 1905, p.19.
Fig. 3.18
Orange Avenue, Northbridge. The street plan indicates the successive construction of houses by builder Edward Butt in 1905-6. It also illustrates the low level of high density inner city housing in Perth.
Fig. 3.19
Plan, 5-7 Orange Avenue, Northbridge. The house was built by E Butt in 1906.
As the building industry became more structured the labour force became more organised. Trade unions began to exercise political power within the building industry. In 1903 a shortage of bricklayers and plasterers prompted building contractors to advertise in the eastern states, much to the alarm of local unions, who attempted to prevent this move in the belief that a shortage of labour guaranteed them higher wages. The WAMBEJ, as the public voice of the building contractors, expressed concern over these events. In late 1904 unskilled labourers, agitating for higher wages, withdrew their labour and caused severe disruption in the building industry. As the disruption continued the editor warned readers that "hundreds of residents of Perth and Fremantle desire to have homes of their own and are only waiting to build when the state becomes more settled." The period of continuous economic growth which Western Australia had enjoyed was coming to an end and the instability in the building industry was but one sign of the economic uncertainty that lay ahead. However, in the preceding years the standard of construction and the quality of building materials and range of stock details in Perth had markedly improved. Perth had a well established building industry.

3.9 Housing

Despite the rapid expansion of the building industry and the steady increase in local manufacturers the housing industry in Perth was still relatively unsophisticated; the majority of houses were still built by owners, who would subcontract skilled tradesmen to assist them, and the range of building materials and skilled tradesmen were still relatively limited. As a result housing in Perth up until the First World War (1914-18) displays a high degree of uniformity. In 1901, due to building by-laws which restricted the construction of timber buildings, approximately 75% of the 5,126 houses in the Perth municipality were constructed of brick and the vast majority were roofed with galvanised corrugated iron; in Subiaco, a poorer area in which there was no restriction on the use of timber, the majority of the houses had timber cladding (74%), but again

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150 The Builders and Contractors Association of Western Australia had been fixing the wages of trademen in Perth since 1892. ABCN, 10 June 1892, p.240.
151 WAMBEJ, 29 August 1903, p.18.
152 WAMBEJ, 6 August 1904, p.18 and 26 November 1904, p.10
with iron roofs.\textsuperscript{153} This trend in the use of materials was to continue over the decade and the census figures of 1911 show that in Perth and its suburbs a total of 62\% of the houses were of brick and stone construction, while only 32\% of the houses were of timber. The major change was in the choice of roofing material; terra-cotta tiles had gradually become increasingly popular, despite being more expensive than corrugated iron.

Between 1895 and 1905 the city was gradually rebuilt and the standard of housing, governed by enforced building regulations and the availability of better materials, definitely improved. The number of hessian and iron houses, which were frequently reported in the press as being damaged by fire, were decreasing\textsuperscript{154} and Perth City Council was more than willing to exercise its right to condemn buildings which were deemed to be unsuitable for human habitation. The Council vigorously pursued this policy for several years and in 1904 the \textit{WAMBEJ} assured its architectural and building readers that "such a large number of buildings having been condemned by the PCC, there should be plenty of work among the architects, as valuable land in the city cannot lie idle for long."\textsuperscript{155} The demolition of these unhealthy and unsightly buildings was as much in the commercial interests of architects and builders, who were strongly represented on the city council, as it was the communal interests of health and amenity.

In 1899 the \textit{Western Mail} reported that the new villas being built in the expanding suburbs "have not only got more rooms than formerly, but are larger and airier. Comfort is being aimed at and provision is made for rendering the hottest summer weather more tolerable". The report went on to say that the ideal Australian house had still to be devised, but "a glance at the new buildings shows that many an experimental design is being tried", however the reporter suggested that modern living conditions and the weather had still to be properly addressed.\textsuperscript{156} This was a theme taken up by the editor of \textit{WAMBEJ} in 1903, when he asked,
"How is it that with an ever increasing body of architects, educated and trained more and more carefully, the vernacular architecture becomes worse and worse? The style of building has ceased to be traditional and has become ignorantly imitative."\textsuperscript{157} Although it was not made clear just what was being imitated, it might be that the editor believed domestic architecture in Perth was still adhering to the older style of Italianate design. A year later this concern for stylistic development in Perth was expressed more explicitly; "in the suburbs of Sydney the style of architecture is certainly far in advance of what is generally seen in the West." The writer suggested it was not because there was more money to spend on the building of houses, but that Sydney architects put more effort into their drawings.\textsuperscript{158} It is certainly true that architectural drawings in Perth contained the minimum amount of architectural information; most houses were built from information contained on only one sheet of drawings. (Figs.3.20 & 3.21) Builders, or owners, it might seem, had the final choice on standardised details and finishes and therefore detailing the design was an unnecessary expense. Architects were paid a professional fee of 3\% for the preparation of plans, specifications, and receiving tenders,\textsuperscript{159} therefore was it a case of clients getting the quality and quantity of drawings they paid for? Later that year there were several claims in the building journal that clients were having architects prepare drawings, putting them out to tender and then dropping the project, because the prices were too high.\textsuperscript{160} Given these circumstances it is not surprising that Perth architects did not spend more time designing the details of houses. But then the editor of \textit{WAMBEJ} was somewhat inconsistent in his architectural criticisms; only three months earlier he had favourably commented upon the "large number of really fine and nicely designed residences" that had been built at Mount Lawley during the past months.\textsuperscript{161} Mount Lawley, which by this time had roads and water laid on in the No.1 Estate, had become a very popular suburb amongst the professional class, which rivalled the status of West Perth.\textsuperscript{162} As the prestigious lots in West Perth were gradually built up, leading lawyers, financiers and civil servants sought residential lots of similar status in Mount Lawley. Frequent references

\textsuperscript{157} \textit{WAMBEJ}, 21 February 1903, p.17.
\textsuperscript{158} \textit{WAMBEJ}, 25 June 1904, p.11.
\textsuperscript{159} "Architects' Fees", \textit{WAMBEJ}, 20 August 1910, p.19.
\textsuperscript{160} \textit{WAMBEJ}, 10 September 1904, p.19.
\textsuperscript{161} \textit{WAMBEJ}, 6 February 1904, p.18.
\textsuperscript{162} \textit{WAMBEJ}, 30 April 1904, p.18.
Figs. 3.20 & 3.21
Architectural Drawings, Perth, c.1900. Two examples of the lean drawings produced by architects in Perth. One sheet of drawings was sufficient for the construction of a house.
(Source: School of Architecture, Curtin University of Technology)
were made over the next decade to numerous large houses, designed by architects, in the popular suburb.

Whether designed by an architect or the local builder, single storey houses in Perth generally conformed to a layout dictated by social priorities and established by conventional wisdom; the hot and odorous kitchen was placed at the back of the house, usually opening onto a back verandah, which it shared with the bathroom. This whole area was under a skillion roof, rather than incorporated under the main roof. Often this back area would be built in timber, which served to further emphasise its service role. If there was a separate eating area it was located closer to the kitchen than the drawing room, because of the servant shortage. The larger of the two front rooms, next to the front door, was allocated use as the drawing room and the other was used as the best bedroom, an arrangement which R. M. Hamilton described as socially objectionable. Any additional rooms were then arranged between the front rooms and the service rooms at the back.

Several architectural writers made specific reference to the influence of the narrow lot frontages on vernacular house design. Hamilton, describing Western Australian domestic architecture to British architects, pointed out that "not much exterior effect can be gained" as a result of "the restricted size of the building lots, which have mostly been cut up into very narrow frontages."163 Certainly many sites in the less expensive suburbs were only 10 metres wide and this ensured the house was designed with a prominent facade fronting the street, but little else beside. Where the site was too narrow, as was often the case in the early suburbs of Highgate and Subiaco, the house was built on one side boundary, using a brick parapet wall to separate the properties, but in later subdivisions the standard lot width of 13.4 metres was quite adequate to accommodate a house width of two rooms and a hallway. A more generous lot width of 16 to 20 metres, as found in West Perth and

Mount Lawley, allowed the architect more freedom of design, despite Hamilton's complaint.

The vernacular house plan consisted of four rooms separated by a central hall, with a verandah across the front, while the five room house plan had the sitting room projecting forward, forming a stop to the verandah and the extra room slipped in behind, as seen in the sketch plans drawn by Hamilton. (Figs.3.22 & 3.23) With these two plans the possibilities of architectural or personal expression were limited. In all cases, for reasons of economy, the basic form and structure of the house remained constant, but details and decorative elements were varied by owners and builders to achieve a degree of individuality. The columns and frieze on the verandah might be of cast iron or, more likely, turned timber; the half timbering of the projecting gable was set out in a different pattern; the size and arrangement of the windows could be varied, some houses having a pair of slim sash windows in the sitting room, others having a single large sash window, while others had a large sash window with sidelights. (Fig.3.24) In the slightly more expensive houses the sitting room might have a projecting square or canted bay window. The front door could have a fanlight, a single sidelight, or a pair of sidelights, depending on the width of the hallway, and, again depending on the purse of the owner, the door frequently featured leaded lights, which, according to R.M. Hamilton, were generally "overdone, garish and harsh."164 A major element subject to personal variation was the chimney. The "classic cap" of Italianate (cement) moulding was widely modified, while the chimney itself was frequently modelled with brick strapping. The collective result of these minor variations in details on houses in the suburbs of Leederville, North Perth and Subiaco was a streetscape of similar houses, but each having its own personal identity.

While most builders and home owners in Perth tried to give their houses a degree of individuality there were a few architects whose designs were so repetitive in their details that their houses can be readily identified due to their similarity. The most notable of these architects was Norman

Fig. 3.22
House plans, Perth, 1906. Drawn by R. M. Hamilton to illustrate his paper on domestic architecture in Perth, these were not typical "small villas" in Perth, but more likely villas in West Perth, or Mount Lawley.
(Source: *RIBAJ*, 10 November 1906)
Fig. 3.23
House plans, Perth, 1906. Drawn by R. M. Hamilton, these plans are typical of suburban houses in Leederville, North Perth and Subiaco. (Source: RIBAJ, 10 November 1906)

Fig. 3.24
Verandah details, as illustrated by R. M. Hamilton. (Source: RIBAJ, 10 November 1906)
Hitchcock, a bankrupt Melbourne architect, who designed a number of row houses and terraces in the Fremantle area around 1903. His architecture in Carlton, Parkville and Prahran, while it occasionally involved large detached houses, was more usually row housing. Big or small, his architecture is readily identified by the idiosyncratic use of stucco mouldings, particularly the chariot wheels framing the pediment and masked keystones. (Fig.3.25) In Fremantle, Hitchcock adapted his designs to local custom, forsaking the use of rendered walls and incorporating local limestone and tuckpointed brickwork (Fig.3.26), but still the details are so powerful that there is no mistaking that they are designs by Hitchcock. The designs of H. J. Prockter are also notable for their eclectic use of large, overscaled, details, but this was more frequently seen in his public buildings, rather than domestic architecture.

Architects did not generally face the same design constraints as speculative house builders, unless designing a series of speculative houses; usually their clients had a site of reasonable width (16.76 to 20 metres) and enough money to allow for an elaboration of the plan. Even though the layout conformed with the usual socially dictated arrangement of rooms at front and back, many architects were adept at shifting the position of the hallway and the entry and thereby giving the configuration of the house plan a semblance of individuality. This can be illustrated by comparing the plan of a house in Mount Lawley with another in Subiaco; the Mount Lawley house, located on a typical lot, sits perpendicular to the street, is approached from the front and has a hall that goes from front to back. The Subiaco house is unusual in that it sits on a corner site which runs parallel with the major road. The "front" of the house faces the major road in the usual manner, but the service block, the "back" of the house, in order to fit across the site has been attached to the side of the house, thereby creating the dog-leg hallway. Overall the size of the rooms and their relationship to one another is the

165 In case anyone did not make the connection to Victoria in Hitchcock's work he named the row houses in Sewell Street after the Victorian towns of "Daylesford", "Glenyon", "Hepburn" and "Kyneton". The obvious question raised by Hitchcock's work in Perth and Fremantle is one of him having the skilled tradesmen to execute his florid stucco decoration. Did he have some loyal tradesmen who accompanied him to Western Australia?
3 Hobson Street, South Yarra, designed by Norman Hitchcock, c.1888. Hitchcock also designed 48, 50 & 52 King Street, East Fremantle, c.1903. The details are similar, but the building materials reflect the ready availability of limestone in Fremantle.
same in both houses, only the configuration of the plans has been deftly juggled to deal with the differences of the sites. (Figs. 3.27 & 3.28)

The example above is by no means unusual. Generally, architects worked within a relatively narrow range of design solutions, which were modified and varied for each particular situation. To achieve the desired picturesque effect it was preferable that the client have a corner block, for this provided an opportunity for the architect to achieve a degree of asymmetrical balance. Usually the verandah would be wrapped around the corner of the house, often a bay window would angle from the corner and on occasions this corner would be further emphasised by a conical roof. (This particular model had been popular in Melbourne in the 1890s.) The angled corner window proved to be so popular that often it was used in some of the wealthier hillside neighbourhoods even where the client did not have a corner block, but wanted to take advantage of the "view". Frequently this approach resulted in the houses having a rather cramped appearance.166 Despite Hamilton's complaint about the restricted width of lots, large houses, with more rooms and sited on wider lots did offer architects a greater potential to vary the massing of the house and, in particular, the roof line. In Perth the use of gablets to ventilate the space under the roof extended the length of the main ridge and emphasised the horizontal line of the roof, whereas in Melbourne the form of the roof emphasised its vertical line. Small hipped or gabled roofs projecting from the main roof, combined with the separate bullnose verandah, broke up the traditional rectangular form of the house. While terra-cotta tiles were an increasingly popular roofing material, corrugated iron still predominated in roof construction, even in the more expensive suburbs; all four West Perth houses photographed by Hamilton for his British article had corrugated iron roofs. (Fig. 3.29) Eaves were designed to form a classical cornice, with the gutter forming an ogee on the fascia and the soffit lined with battens, which, in Perth's hot climate, encouraged air circulation in the roof space while keeping out any stray birds. Architects were financially able to utilise a wider range of decorative elements in their designs and with their aesthetic sensibilities

166 A comparison of houses in the parallel section of Almondbury Road and and Walcott Street, Mount Lawley, illustrates the need for a wide site, when successfully designing a corner bay window.
House plans, Perth. Built a decade apart, these houses demonstrate the manner in which architects and builders rearranged similar sized rooms to match functional relationships and social order to site conditions.
Fig. 3.29
Four houses, Walker Avenue, West Perth, 1906. Hamilton claimed these were typical villas, but they were only typical of houses in the more expensive suburbs of Perth. Note, all these relatively expensive houses have corrugated iron roofs.
(Source: RIBAJ, 10 November 1906)
attuned to the Art Revival, this ensured a more crafted and picturesque architecture. Gables featured half timbering, moulded terra-cotta tiles, or patterned pressed metal sheets, window sills were highlighted with cement mouldings, while decorative fretwork on barge boards, brackets and verandah friezes gave craftsmen ample opportunities to display their skills. Hamilton, writing for British readers, remarked that building construction in Western Australia was "very light and economical" by comparison to British standards, but this should not have been unexpected. Climatic conditions in the two countries were quite different and therefore the weather loading on the roof was of a different order. In this respect architects in Perth, and elsewhere in Australia, had modified their traditional (British) construction details to best suit local building materials, weather conditions and the economics of building.\textsuperscript{167}

In 1905 the Hassell house, "Kenderup", built on Hay Street, West Perth, was the largest private residence in Western Australia. It was designed by Bastow and Marwood, who worked on this job in a temporary partnership. Marwood's architectural practice was based in Geraldton, where he usually undertook commissions for country homesteads in the north-west of the state, and this might well explain his connection with the Hassell family; Bastow was a well known Perth architect (and mayor of Subiaco) and it is likely that his primary role was to supervise the construction of the house. The house was somewhat confusedly described as "designed in the Renaissance style" and "carried out in a manner to suit the West Australian climate."\textsuperscript{168} The dining room, a vast 64 square metres, had a locally made stamped metal ceiling, which was elaborately treated. The arrangement of the numerous rooms was reported to have been well thought out and "unusually convenient" for such a large residence. The house was well serviced by common standards; there was hot water piped to the various bathrooms, supplied from the kitchen and a septic tank had been installed in the grounds.

\textsuperscript{167} R. G. Haddon's \textit{Australian Architecture} (1908) was to later confirm the use of standard building construction details, suited for Australian conditions.
\textsuperscript{168} \textit{WAMBEJ}, 6 May 1905, p.19.
Despite its size and cost "Kenderup" was relatively modest when compared to the large, extravagantly decorated, houses that had been built in Melbourne at the height of its building boom. The restraint that was evident in houses built in Perth during the boom period was still apparent in this period of sustained economic growth. Perhaps the effects of the dramatic financial collapse in Melbourne in the early 1890s continued to make people wary of overcapitalisation; a point vividly reinforced, for those living in Perth, by the sudden economic demise of W. G. Brookman, flamboyant mining entrepreneur, property developer and, briefly, Lord Mayor of Perth, in 1901. However, despite this evident restraint in design, people in Perth were certainly proud of the city's housing stock. Austin Bastow, in his role as Mayor of Subiaco, reported that "it is apparent to the man of taste in relation to building that Western Australia has already out shone the villa architecture of any of the States in the Australian group and Subiaco is now the proud possessor of these edifices", but depending on the definition of "villa architecture" and allowing for Bastow's mayoral interest, this statement might possibly be true of the design standards of the vernacular villa, but not of high architecture. The architect-designed houses of Perth lacked the exuberance of detail and finish of their counterparts in Melbourne and Sydney. For the time being, as Hamilton remarked, the houses of Perth were noted for their maximisation of floor space; substance was evidently more important than style in Perth. Architect-designed houses in West Perth were comfortably large, rather than stylishly grand, reflecting the social trend towards an informal suburban lifestyle, as was evident in Melbourne in the 1890s. (Figs.3.30 & 3.31)

3.10 Interior Design

During this period of economic consolidation numerous suppliers of building materials and many skilled artisans established their businesses in Perth. This had a strong effect on both the external and internal finishes of domestic buildings. Plasterers installed elaborate cornices and pre-cast ceiling roses and the joinery firms supplied moulded timber skirtings and architraves of varying widths and detail. Four panelled

169 "Progress of Subiaco", West Australian, 2 March 1903, p.3.
170 Barnet Brothers employing leadlight designer H. H. Eastcourt was typical of the new opportunities for skilled artisans and craftsmen in Perth.
Fig.3.30
Illustration, Toorak house, 1894. It was designed by J Waugh, prior to his arrival in Perth.
(Source: ABCN, 2 May 1894)

Fig.3.31
23 Outram Street, West Perth, 1908. Designed by P.W. Harrison, it is similar to Waugh's illustration. These designs demonstrate the strong influence of Melbourne architects on architectural design in Perth.
Oregon doors and cast iron fireplaces were now stock items from the local building suppliers. The degree of decoration and detail varied according to cost; the local owner-builder in Subiaco or speculative builder in North Perth could buy from a large range of standard stock items from Whittakers, Bunnings or other local building suppliers, while the wealthy home builders in Claremont, Mount Lawley or West Perth could afford to employ craftsmen to specifically produce more elaborate decorative details and finishes.

Whether the house was large or small there was a certain social and economic hierarchy to the manner in which the details and finishes were applied throughout the house. The important public, or principal, rooms including the front hallway, living, dining and best bedrooms were as finely detailed as could be afforded, with large plaster ceiling roses and elaborate cornices, high moulded timber skirting boards, turned timber mantelpiece, decorative fireplace and tiled hearth. These were the "front" rooms which might be used by the owners' friends and acquaintances; these rooms were expected to convey an impression of the social standing of the family. Therefore the rooms were required to be impressive. However, beyond the hall arch, which separated the public and private spheres of the house, the details and finishes in the secondary bedrooms, kitchen and any other rooms were less elaborate as these rooms were less likely to be viewed by outsiders. Skirting boards were lower, and cornices, air vents and ceiling roses simpler. In many houses plaster cornices and ceiling roses were foregone altogether in the secondary rooms; the wall surfaces broken only by a picture rail. In inexpensive houses there were neither ceiling roses, cornices, nor picture rails.¹⁷¹

For those who could afford them, the aesthetic choices of interior details in Perth were varied. In Britain and the Australian states it was a

¹⁷¹ This hierarchy of decoration is best exemplified in the houses built by Edward Butt in Orange Avenue, Perth (1905-06). The detached house on the corner of Stuart Street has elaborate plaster decoration, the detached house in Orange Avenue has less decorative plaster work and but only in the primary rooms. However, in the semi-detached houses the only decoration is a picture rail in the living rooms.
period of eclectic taste. This is evident not only in the houses, but also in the contemporary craft collection in the Art Gallery of Western Australia. The craft collection was begun in the Western Australian Museum, which was founded in 1891. The museum director, Bernard H. Woodward, was advised on art matters by James Linton, an art teacher at the Perth Technical School. Linton was very impressed by the example of his Art Revival colleagues at the Victoria and Albert Museum in London, who were building up their craft collection by encouraging manufacturers to donate examples of their wares to the museum. In Perth, Woodward and Linton encouraged European manufacturers, and their West Australian import agents, to use donations of their wares to the museum as a means of promotion within Western Australia. It was their intention that the gallery's craft collection would become a rich resource of decorative arts for "popular edification" and act as a means to stimulate local design and manufacture. The success of this policy can be seen in the various crafted objects permanently on display in the gallery; British silver and pewter, Russian pottery, French glass and German porcelain. In the arts and craft, jugendstil and art nouveau styles, the collection reflects the eclectic taste of Perth buyers. This eclectic taste in design was stimulated by the variety of design magazines available in Perth at the time. The Studio, The British Home of To-day and even Deutsche Kunst und Dekoration, the latter in German, were just some of the magazines available from the local booksellers, rather than solely by subscription, indicating the breadth of interests amongst the artistic community in Perth. Numerous architects in Perth were closely involved in the arts; Robert Haddon, together with TS Henry, founded the West Australian Society of Art in 1895 and many architects, including M. Cavanagh ("fair in drawing, but somewhat weak in colouring"), J. J. Clarke ("decidedly above average"), E. J. Clarke ("hard in drawing, though fair drawing") and D. B. Hedderick ("artistic softness of penmanship")

172 Letter from Woodward listing and thanking contributors for their donations to the Museum in the West Australian, 21 August 1895, p.5.
173 Conversation with Robert Bell, Crafts Curator, Art Gallery of Western Australia, October 1990.
174 A copy of Deutsche Kunst und Dekoration is stamped as coming from "H. B. Albert & Co., Book and Music Arcade, Perth." The West Australian Society of Arts subscribed to The Studio, as did the state library. Perth architects were quick to take up ideas from journals and magazines. In a WAIA talk on colour, in November 1904, J. H. Jefferis quoted from an article by Norman Shaw in The British Home of To-Day, which had been published earlier that year.
175 Western Mail, 16 July 1897, p.29.
exhibited architectural drawings, water colours and even tile designs at the Society's exhibitions.176

WAMBEJ printed a number of articles on interior finishes, but their appearance was quite irregular; judging from architects' working drawings interior finishes was not a subject of major concern to their clients. In 1903 the subject of colour was presented as a scientific study, but with an opening proposition that declared "the deprivation of colour conduces to physical and moral deterioration", it is necessary to question the basis of the study, but irrespective of the dubious scientific basis of the study its recommendations on the use of appropriate colours are instructive of contemporary colour values. Combinations of green and blue, or green and yellow, were deemed to yield unpleasant results, whereas grey and green were regarded as an agreeable combination. "The practical lessons to be drawn from the subject are of great importance to the architect who has been somewhat disposed either to discard colour altogether or to present it in masses as to destroy the hygienic balance of a well arranged harmony", concluded the anonymous author, but with a scientific theory like that it was not surprising architects could be accused of discarding the use of colour.177 Two years later J. H. Jefferis presented a paper to the WAIA on the use of colour, but it reads as a rather banal presentation. It was another exercise in a pseudo science of colour.178 What was of interest in Jefferis's paper was the quoting of Norman Shaw from an article in The British Home of Today, published earlier that year, which indicates one of the local sources of information and the outside architects of influence in Perth.

This interest in colour possibly came about as a result of the choice of finishing interior walls with paint or wallpaper. In 1905 "ready to use paint" was available in Perth from Sherwin Williams, who had to overcome "a prejudice against ready mixed paint on the part of some of the older members of the trade with whom the use of lead and oil has

176 Western Mail, 16 December 1898, p.41.
177 WAMBEJ, 14 February 1903, p.17.
become a habit." Sherwin Williams were placing their hopes in the many painters beginning to appreciate the economic advantages of a "ready to use paint". But wallpapers were still very fashionable. Anaglypta, a new material on the Perth market was recommended as a means of enlivening interior walls; it was promoted as a means to avoid the bareness of a painted wall, without having to bear the cost of timber panelling. With 500 registered patterns available, including some by architectural designers such as Owen Davis, G. Haite and C. A. Voysey, there was obviously a wide choice in the material. It a good example of promotional hyperbole WAMBEJ went on to suggest that "no (other) material has forged its way into popular favour within the last few years", but anaglypta was more expensive than paint and so it appeared only in the more expensive houses. An interesting minor item of information on interior decoration, associated with the use of wallpaper, came from Messrs. Thomas Whitelaw and Co., who advised that picture rails should be hung either 21" (533mm) or 10 1/2" (266mm) below the cornice so as to accommodate the wallpaper friezes which came in 21" (533mm) standard widths. This was a classic case where the size of a product determined design.

Judging from the descriptions of the interior finishes of some houses and public buildings in Perth there was no need to fear that Perth architects might discard the use of colour. "Gracemere", (later renamed "Gledwyn"), the impressive new Morgan house, was described in 1903, by a rather overawed reporter, as being "one of the most beautiful residences in Perth". Amongst its features it contained a billiard room, conservatory, extended dining room, wrought iron fence and 18,000 Marseilles tiles and cost £3,150. The interior was described as follows; the entrance hall was of a Renaissance style, lined with walnut timber, the walls were coloured duck egg, the panels, stiles and rails were dull, while the wide frieze ornaments and poundings were in gold. The dining room featured a "Louis period" anaglypta ceiling, painted pale robin egg blue, pale cream and relieved in french white. The billiard room had a Wunderlich pressed metal ceiling, straw coloured and relieved in pompeii red and

179 WAMBEJ, 8 July 1905, p.20.
180 WAMBEJ, 13 June 1903, p.19.
181 WAMBEJ, 2 July 1904, p.19.
182 WAMBEJ, 6 June 1903, p.18.
Fig. 3.32
Interior design, 1892. An illustration by A. R. L. Wright of an interior featuring built in furniture, in an Arts Revival style reminiscent of E. W. Godwin and W. E. Nesfield. (Source: BEJ, 4 June 1892)

Fig. 3.33
corn flower blue. The conservatory by comparison seemed quite modest in hard shades of green and grey. The Art Revival might well have been promoting a more subdued and limited use of colour, but this colour scheme was more akin to the riot of colours associated with the high Victorian period of the 1880s. A description of the original interior colours of His Majesty's Theatre indicates an equally bold use of colour and it might be that strong colour schemes were not so unusual at the time.

In the eastern states there was a move to build more storage into the house and do away with wardrobes and other pieces of freestanding furniture, but in Perth built-in cupboards and shelves were still rare. (Fig.3.32) The few illustrations of interiors indicate a strong emphasis on set pieces of furniture, including tables, sideboards, well upholstered chairs and the ubiquitous piano. (Fig.3.33) The range of furniture and furnishings available in the various emporia were fairly exotic. Boan Bros, Sandovers, Foy and Gibson and the other emporia competed to bring householders the latest and most fashionable fixtures and fittings from around the world. The lack of available household items, which confronted Mrs Edward Millett when she tried to furnish her York house in the 1860s, was no longer a dilemma for the Perth householder. If anything, in 1905, the problem would have been one of choosing from the wide selection of furniture, fixtures and fittings on offer in the emporia of Perth.

3.11 Summary

Ruskin wrote, "I would have, then, our ordinary dwelling-houses built to last, and built to be lovely; as rich and full of pleasantness as may be, within and without .... with such differences as might suit and express each man's character and occupation, and partly his history." If this ideal had any chance of coming to fruition for the ordinary working man and his family anywhere in the English speaking world in 1905 then it

183 J. Ruskin, Seven Lamps of Architecture, p.182.
was certainly amongst the housing in Subiaco and North Perth. (Figs.3.34, 3.35 & 3.36)

As the population of the city continued to grow and more of the gold prospectors decided to resettle their families in Perth, the demand for housing also grew. The government assisted this growth and actively regulated the standard of building construction. As the concern for the health of the population increased, legislation was introduced which established the minimum size of habitable rooms, the amount of light and flow of fresh air in houses. Old housing, built prior to the gold boom, was largely condemned under the new building by-laws and the speculative housing built in the city centre at the height of the boom, much of it "jerry-built", was regarded as suitable only for letting.

Boosted by steady employment and good wages, the introduction of inexpensive public transport and the availability of inexpensive land close to the work place, workers were able to buy suburban residential lots and with a plentiful supply of bricks, timber and corrugated iron sheeting and the development of an organised building industry they were able to build their own houses. While terra-cotta tiles were available in Perth their expense limited their use to houses in the more affluent suburbs. However, a steady supply of stock items of timber joinery and a wide range of furniture and furnishings produced a quantity and quality of suburban housing in Perth that began to rival any other city in Australia, or any other industrialised country.

The support infrastructure, including the supply of piped water and deep sewerage, gas and electricity and macadamized roads was still a problem for the majority of households, but the houses themselves were more than satisfactory, in the standards of both their design and their construction. The impact of the large number of architects, who had previously practised in the eastern states of Australia and were familiar with the architectural debates on the planning of houses and an appropriate architectural response to Australian conditions, was apparent in numerous architect-designed houses throughout Perth. Despite the ambivalent attitude of some West Australians, the federation of the
Fig.3.34
Plan, 27 Carlton Street, Leederville, 1904. Designed by R. G. Oldham, the rear service area was built in timber.
Fig. 3.35
27 Carlton Street, Leederville, 1904. Designed by R. G. Oldham, it is one of the many modest brick and iron villa designed by architects in Perth.

Fig. 3.36
9 Daphne Street, North Perth, 1905. A weatherboard cottage built by A. Purcell for £80. An example of vernacular building, the cottage has a plan and form in the tradition of the 1863 Roe Street cottage (Fig. 1.14).
states of Australia had served to reinforce the greater communication and identification between Western Australia and the rest of the country, slowly reducing the state's traditional strong ties to Britain. This was reflected in the greater use of Melbourne and Sydney as metropolitan role models for future developments in architecture and housing in Perth.

In 1905 the cherished ideal of domesticity, comfortably lodged in a suburban home, was more than just a dream; for the majority of the population in Perth, secure in steady employment and earning a good wage, it was within the realm of possibility, and for many it was an achievable goal.
4. ECONOMIC UNCERTAINTY (1906-1910)

4.0 Introduction

In January 1906 the WAMBEJ routinely reported that "a large number of brick and wood residences are being erected in the suburbs, especially at Subiaco, Claremont, Cottesloe and Cottesloe Beach."¹ The growth of suburban housing outside the city boundary, begun at the turn of the century, steadily continued as more people sought the financial security and social approbation attached to owning their own home in the suburbs of Perth. This growth was still evident in September when it was reported that "the suburb of Mount Lawley is steadily advancing; a good class of building being erected. A large number of villas have lately been constructed there and tenders will be shortly invited for others in that locality."² Taken at face value it was possible to conclude from these reports that the economy and the building industry were both in good shape, but this was not the case, and the following month it was apparent that all was not well within the building industry, nor the state's economy. The Treasurer, Frank Wilson, struck a note of caution in his Budget speech, warning the electorate that "we have reached a period in the history of this State when lavish expenditure cannot be continued, when every pound must be weighed, and care taken that the value is received by the State." Still he was optimistic that "an era of steady and continuous progress has set in, an era which will certainly be more conducive to the permanent happiness and well being of our people."³ Government ministers are compelled to project a positive vision of the situation, but it is doubtful that timber mill workers and brickmakers, temporarily unemployed due to a shut-down of production to allow an oversupply of materials to diminish, shared the Treasurer's optimism. In October 1906 Western Australia experienced a sharp economic downturn, which although it was short-lived marked the end of steady growth in the building industry. Economic growth in Western Australia, which had sustained the demand for new housing, became uncertain and union workers, trying to maintain their standard of living, went out on strike, disrupting supplies of building materials and causing a decline in

¹ WAMBEJ, 20 January 1906, p.19.
² WAMBEJ, 29 September 1906, p.19.
³ PD WA 30 1906 1937.
investment confidence in the building industry. Building activity fell away and was not to reach the level of activity attained prior to 1906 until after the conclusion of the First World War.

The prime cause of the economic decline was a drop in the export value of primary produce. The production of the gold industry in Western Australia had reached its peak monetary value of £8,617,959 in 1903, then steadily declined to £4,568,868 in 1910, before making a temporary recovery. In 1906 the value of wheat and flour exports collapsed, export demand was virtually nil, but demand slowly rose again and by 1910 was worth £430,000. In 1907 the value of timber exports dropped 29% on the previous year's figure, however it quickly recovered the following year. It was a period of uneven economic growth and therefore the amount of private capital invested in new residential work fluctuated as the housing market tried to come to terms with an unsteady economy. As a result of economic and political pressures Federal and state governments became more active supporters of measures to sustain the living standards of workers. The labour movement, through the political clout of an increasingly influential Labor Party, began to push for legislative support for the housing industry. The Harvester judgement of 1907 introduced the provision of a basic wage for workers. To maintain electoral support politicians of all political persuasions throughout Australia used legislation to ensure Australia remained a nation of home owners.

4.1 Population Growth

The lull in population growth in Perth was reflected in a relatively quiet period for the housing market, it was also marked by a shift in the areas of housing growth. The older, more densely built inner city areas, apart from being nearly built out, were regarded as less desirable

4 The Labor Party was founded in 1891 as a result of a shearers' strike in Queensland. In 1904 the Labor Party in Western Australia temporarily formed a government.

5 H. Daglish, prior to briefly being the first Labor Premier in Western Australia in 1904, had been the mayor of Subiaco, and well understood the desire and efforts of workers in his suburb to own their own homes.
neighbourhoods in comparison with the adjacent more spacious low density suburbs; particularly as these suburbs were now easily accessible by inexpensive public transport, serviced by the government with schools, post offices and police stations and supplied with piped water, gas and electricity. In the fashionable parts of West Perth houses were built on the few remaining vacant lots and in July 1908 it was reported that a large residence in Kings Park Road "about fills up the last vacant allotment in that popular street."6 This prompted the professional class to build their houses in the more distant suburbs of Mount Lawley, Nedlands and Cottesloe/Swanbourne, all of which offered lots of similar physical characteristics, serviced by trains or trams and suitably priced to ensure a high degree of social segregation. With Highgate Hill practically built out and East Perth and Northbridge increasingly subject to competition from light industrial uses, artisans and their families favoured building on suburban lots in Leederville, North Perth, Subiaco and Victoria Park.

4.2 Changes in Lifestyle

In the early 1900s, the profile of Australian society was changing. The wealthy upper-middle class, the traditional client group of architects, was no longer an expanding group, expansion was amongst the managerial middle class. This was particularly true in Perth where the boom of the gold rush had finally died, to be replaced by a period of economic consolidation. Few fortunes were dramatically found in the goldfields, or established in new commercial enterprises in Perth. Businesses expanded slowly and the demand for housing was relatively quiet. Over the next decade wages remained steady, but the cost of housing steadily rose. Therefore housing expectations and the architectural demands of the managerial class were trimmed to suit the restricted budgets and this produced a more sober house design.

The issues of the development of an Australian architecture, raised by Green, Sisley, Sulman and others in the 1890s in architectural journals, continued to be debated throughout the first decade of the 20th century.

6 WAMBEJ, 4 July 1908, p.20.
but the principal emphasis of the articles shifted from considerations of climate and choice of available building materials to issues associated with lifestyle. A shift in the economy, continued difficulty in securing suitable domestic help and growing concern for issues of health and hygiene all helped to stimulate a greater interest in household management and a reassessment of the social model on which the local lifestyle was based. In questioning the wisdom of wearing a frock-coat and silk top hat in the searing heat of an Australian day it was also necessary to question the appropriateness of other social mores. While many members of the upper end of Australian society chose to maintain a strong sense of formal social decorum, a broad section of Australian society accepted, albeit reluctantly, the idea of a more informal lifestyle, and consequently this was reflected in domestic architecture.

In 1907, in "The Ideal Australian House" an anonymous author wrote, "our mode of living should be quite sufficiently determined to enable us to summarise the requirements of an Australian house, as distinct from one of England or America." Although no attempt was made to specifically define "our mode of living", nor to highlight how it differed from that in England or America, the author implied that this lifestyle was based on "national characteristics and habits induced by climate and other causes", and it has to be presumed that author and readers implicitly recognised these differences of lifestyle. The author noted that "the days of large houses seem to have gone by", and therefore his comments were to be limited to an ideal house costing no more than £1500, erected on land having a 30 metre frontage and a 60 metre depth. By Perth's standards this was still a big house.

The major issues covered in the first article were aspect, room orientation and the use of deep verandahs, but in the following issue, the discussion on the ideal Australian house became more specific, although it tended to

8 There is a strong difference between the example used by this author and housing in Perth. A typical large architect designed house in 1906 is 3 Hillside Avenue, Swanbourne. Designed by R.G. Oldham, the house (116 square metres) cost £877. A popular brick and iron house cost £500, sited on a typical block of 50'0" x 130'0" (604 square metres).
go over similar ground covered by previous authors. Convenience, described as "comfort writ large", was considered to be the prime objective of good design, and on this point the author directly challenged Stevenson's established recommendation that in order to achieve a good architectural effect it might be necessary to compromise on layout. On this point the author was quite adamant that architectural effect should not be achieved at the expense of convenience. More significantly, Stevenson's dictum on the necessity of having multifarious rooms of single function to achieve comfort and convenience was directly challenged. In Australia, in the 1900s, it was argued, "an economy of space is necessary for convenience, as well as for financial reasons." Economic considerations was a major design determinant and, therefore, it was recommended that the drawing and dining rooms, and even the hall, might be combined, or at least designed to act in unison as one large public area. This was followed by a suggestion that a means to economise on space was to provide circulation through rooms, rather than have dedicated areas in halls and passageways. This heavy emphasis on a more economic arrangement of domestic spaces was a new phenomenon in the architectural journals and ran counter to architectural and social dictums of the previous fifty years. That architects were willing to challenge conventional wisdom and advocate a new approach to domestic design indicated the seriousness of the situation.

In the same issue of *Art and Architecture* Joseland wrote of the difficulties architects faced in attempting to reconcile their clients' limited means and unlimited wants. He suggested that limiting the initial housing costs and the working expenses was the answer. Again, implicit in his article was the realisation that Australian domestic architecture was moving into a new era. Architects' current clientele was generally of more modest means than was previously the case and required a more economical architecture. Joseland suggested that room sizes be cut back, the hallway could double its function by being used in conjunction with the sitting room, better use could be made of verandahs for outside sitting or sleeping areas and exterior decoration, and

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Fig. 4.1
Family photograph, Perth suburb, c.1905. The family proudly poses in front of their tuckpointed brick and iron villa. The husband relaxes on the verandah, while the wife appears to water the garden. This was the suburban idyll, the family at home.
(Source: Battye Library Photographic Collection)

Fig. 4.2
141 Chelmsford Road, North Perth, 1908. A typical brick and iron villa, built by local builder and politician R. A. Gamble.
ornamentation in the form of garish paintwork, distorted woodwork and plaster ornaments could all be discarded.\(^{10}\)

In architectural articles and lectures of the late 1900s was an acceptance on the part of most writers that the Australian lifestyle had become more informal and therefore domestic architecture should reflect this change. It was a view which superseded the earlier comments of Michael Cavanagh and others in the 1890s, whose suggestions on domestic design attempted to reinforce and support a strong sense of late Victorian British middle class social decorum, with its emphasis on explicit formality. Although, it is evident from British Art Revival architecture, in which a greater emphasis is placed on a sense of comfort rather than social decorum, that formal Victorian mores had given way to a more relaxed Edwardian lifestyle. In Perth this more relaxed atmosphere is quite apparent in contemporary photographs of families "at home", as well as the houses themselves. (Figs.4.1 & 4.2)

4.3 The Servantless House.

A key element in the breakdown of Victorian formality in the Australian home was the real difficulty and high expense of trying to maintain a formal lifestyle. The principal dilemma faced by an Australian mistress of the house was the inadequate supply of competent domestic servants. In Perth a number of original settlers had brought their servants with them, but soon they found it difficult to retain them. In a free colony, in which all settlers believed they had the right to social mobility, servants presumed that, like their masters, they too could be landowners and independent. This challenge to the colony's social order made it necessary for the 'masters' to demand that the Governor introduce a Masters and Servants Act (1842) to keep 'servants' in their proper place of servitude. Despite numerous projects to encourage hundreds of single young Irish girls, willing "to go into service", to emigrate to Australia, there was a perennial shortage of suitable domestic servants. In Perth and throughout Western Australia, where there was a noticeable

\(^{10}\) Joseland and Jones were both scornful of all the bits and pieces that were added together to make up what we know as the Federation style.
imbalance between the male and female population, marriage in the new country was an easy means for a girl to break the tradition of being a "faithful family servant." Many a girl must have asked herself why be the servant when it was possible to be the mistress? "We, like our mistresses, mostly left home to better ourselves by marriage, more independence, a piano on time payment and even a servant of our own", was how one Perth domestic servant expressed a commonly held attitude, in a letter to the *Western Mail* in 1895.\(^\text{11}\)

This strong disinclination for Australian females to go into domestic service, as well as the familiarity and incompetence of servants, was a major problem for any Australian householder aspiring to follow the dictates of Mrs Beeton and other authorities on household management, social convention and etiquette. In 1883, Twopeny noted that "given equal incomes, and the English mistress has twice as many servants as the Australian and, what is more, twice as competent."\(^\text{12}\) Twenty-five years later, the available Australian domestic servants were still regarded as both expensive and incompetent. A few architects publicly raised the problem; in 1890 Joseland recommended the use of simplified ornamental features as a means of cutting back on domestic labour.\(^\text{13}\) However most architects, like their clients, simply bemoaned the "servant problem" and kept designing houses which required servants in order to function properly.

Eventually this lack of adequate domestic labour was either recognised as a problem to be struggled with, if householders insisted on living in large formal houses, or accepted as a reality of life in Australia and a solution found through a different approach to the design of houses. John Sulman, in 1902, faced the problem squarely in a paper presented to the Australasian Association for the Advancement of Science titled "The Twentieth Century House, with suggestions on the solution of the

\(^{11}\) *Western Mail*, 15 June 1895, p.12.
servant problem." In his paper Sulman made the unpleasant forecast that "middle class households will, in the future, have to dispense with servants altogether." He recognised that "the great and bitter cry of the distressed middle class housekeeper of present day in advanced countries like Australasia and the (United) States is the impossibility of obtaining capable servants, or indeed, in many cases, of obtaining any" and he warned his audience that "without servants the middle class house as we know it is practically unworkable." Sulman suggested it would be necessary to break down the conservative ideas of the women; to change their attitudes and social values. Traditional design ideas had produced houses in which two classes of people occupied the house, exemplified by Stevenson's dictum on the separation of householders and servants. Sulman proposed the house be designed on the assumption that there were no servants, this would result in radical changes to the plan. The use of a first and second sitting room, the latter often used as a breakfast room, would need to be reassessed and the kitchen would need to be redesigned. This might involve the amalgamation of kitchen, scullery and pantry functions into a smaller, more manageable kitchen, incorporation of new household equipment and its location closer to the dining room. Sulman recognised that ease of cleaning was a major social issue for middle class householders. He suggested dirty coal fired stoves be replaced with clean gas cookers, electrical appliances be introduced "as soon as they are available" and hot water be cleanly supplied by use of a new American product, the "Vulcan Waterheater". Sulman also reiterated Joseland's idea of saving space by cutting back on the use of single function spaces, suggesting that folding doors could be used to create separate spaces, which were also capable of being opened into one large space when required. Sulman did more than just discuss architectural ideas and in several of his houses these ideas were put into practice. In a letter to a client, explaining the rationale of his design, Sulman specifically mentioned the increasing difficulty of obtaining good domestic servants as a major factor in shaping the house plan.


Sulman's approach to this issue was in marked contrast with that of George Temple Poole, the president of the WAIA. In 1906, under the auspices of the Committee of the Western Australian Museum, Temple Poole delivered a public lecture on "Domestic Architecture". As reported in the *WAMBEJ*, it was a rambling speech covering everything from the design of primitive mud huts and Saxon Halls to late nineteenth century co-operative housing in England. Running through his lecture was the theme which connected the design of buildings to the capabilities of society; for example house plans shaped by social behaviour and functional requirements. Therefore, it is all the more surprising that despite having lived and practised as an architect in Perth for twenty-one years Temple Poole's view of society was still very much shaped by late Victorian Britain, rather than contemporary Western Australia. While he acknowledged that society in Australia was becoming more egalitarian, Temple Poole suggested it was imperative to socially differentiate between employer and employee within a building. "This complexity, resulting from the altered relationship of the constituents of a household, and also the character of those constituents, demands the exercise of specific design to bring them into working shape", he said, harking back to the thoughts of Stevenson. Then, in apparent contradiction of his earlier comments, he advised his audience to design their houses for "the labour of few domestic hands", or worst still, none at all. The solution to this problem, he suggested, was to circumvent reliance on those whom he referred to as "domestic mercenaries" and place faith in "appliances and machines of labour-saving." By these means, he believed, "men and women of this time, and the future, may re-attain the nobler ease of condition essential to desirable social living". In a final warning to his audience, he advised that "an ill-planned house makes labour waste and greatly increases the establishment charges." It was somewhat confusing, advice, which did not resolve the problem. Temple Poole waivered between recommending the old lifestyle of the nineteenth century in a house maintained by domestic servants or the new lifestyle of the twentieth century in a house cleaned with labour saving devices. His audience were probably equally uncertain.

16 G. Temple Poole, "Domestic Architecture", *WAMBEJ*, 4 August 1906, p.15.
The number of households in Perth in which domestic servants were employed had always been relatively small. In 1901 there were only 478 households in the Perth municipality with servants, of which 394 (82%) employed only one servant. The largest number of households employing servants was in West Perth, but even in West Perth only forty-seven households employed two or more servants, and of these only seventeen households employed three or four servants. Except for small suburban pockets in Peppermint Grove and Claremont, the employment of domestic servants throughout the metropolitan area was correspondingly much lower.17

Data in the Census of 1911 was collected on a different basis from the previous census (1901), therefore it is difficult to make direct comparisons between the two sets of figures, but nationally the percentage of people employed as domestic servants decreased over the decade from 5.36% to 4.44%. In 1911 there were 23,000 houses in metropolitan Perth and only 2,726 people employed in domestic service. With such a small number of householders employing domestic servants it was the responsibility of architects to design houses capable of being efficiently managed without the assistance of servants. This meant a tighter, more rational use of space, a simplification of decorative details and mouldings, which were believed to collect dust, inclusion of more built in storage space, use of easily cleaned surfaces in service areas and introduction of cleaner methods of heating and cooking. The planning concepts, details, finishes and aesthetics of the "servantless houses" designed by architects for middle class clients shifted socially accepted ideas and images of domestic architecture, which influenced houses designed by speculative builders and in turn these changes were eventually accepted and incorporated into the vernacular cottage.

4.4 Australian Architecture

Since the first settlement of the colonies architects in Australia had worked within a predominantly British architectural framework. In the

17 The total of all domestic servants employed in the households of Fremantle was less than that for West Perth.
late 1880s and throughout the 1890s, in a social and political atmosphere heady with talk of Australian federation, many architects presented papers or gave lectures on the evolution of a distinctive Australian architecture. However, it was Robert J. Haddon who wrote the seminal book on the subject. Published in 1908, *Australian Architecture*, was intended to be "a Technical Manual for all those engaged in Architectural and Building Work." In his introduction Haddon clearly outlined his case for an uniquely Australian architecture. "With climate distinct from others, with building materials of distinctive character, and with requirements of life, business, and habit differing from the old civilization of lands of ancient settlement, we are faced with problems, in our building, which require the application of special study; and it is the object and purpose of this manual to direct attention to some Australian requirements, and to provide ideas and suggestions for meeting the difficulties of a local character in Australian building work."18 Haddon had publicly stated his thoughts on architectural design many times before and in comparison with ideas expressed by contemporary architectural writers there was nothing particularly radical in what he wrote, but the significant difference was that Haddon's book, unlike all the previous articles in professional journals, was specifically intended to be a teaching text and reference book.19

Despite the somewhat idiosyncratic nature of his own architectural design Haddon's approach to domestic architecture in his book was quite orthodox, tending to reinforce the status quo of Australian house design, rather than challenge it.20 True building, he wrote, should be directed towards two ends; the creation of homes, as opposed to houses, and the "encouragement of continuity". Haddon espoused the principles of the Arts and Crafts movement; he cited Ruskin, Morris and others in support

18 R. J. Haddon, *Australian Architecture*, p.3.
Figs. 4.3 & 4.4
Subscription page, *Arts and Crafts* magazine, 1895. Advertisements in the magazine are drawn in a mixture of arts and crafts and art nouveau styles.
of his views. The Arts and Crafts had enjoyed widespread support across Australia from the 1890s, with many articles and illustrations on the subject appearing in Australian professional journals. In late 1892 an Arts and Crafts Exhibition was staged in Sydney; numerous building suppliers and manufacturers exhibited their wares and a number of Melbourne and Sydney architects submitted architectural designs for exhibition. In 1895 the Australian movement was reinforced by the publication in Victoria of "an illustrated Australasian magazine", Arts and Crafts, with an emphasis on "the Home: its equipment and hygiene". The magazine was not successful, but it managed to continue publication through to 1898 and featured houses by Melbourne architects Oakden and Kemp and Reed, Smart and Tappin, articles by James Green and illustrations of locally designed furniture. Despite the failure of the magazine the Arts and Crafts movement was well established by 1908 and accepted by architects, clients, manufacturers and suppliers of building materials. The Arts and Crafts / Arts Revival aesthetic was evident in the style of the cover of WAMBEJ (designed in late 1902), and advertisements in Haddon's Australian Architecture. Haddon did not have to convince his readers of the merits of his Arts and Crafts philosophy, nor its form.

Haddon played down the primacy of the plan, instead he advocated the building be designed as an single entity. He expressed a contemporary concern for hygiene, recommended harmonious use of colour and valued a restrained use of ornament. Due to the predominance of single storey houses in Australia and a lack of precedent elsewhere, Haddon recommended that Australian architects and builders take advantage of

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21 In a paper presented to the RVIA in 1903, titled "Some Thoughts on Architectural Design", Haddon had listed the following main principles; seek truth, be true to your materials, study mass, let Nature do all she can with the exteriors with her sunlight and her shadows, study colour and its harmonies, know the unfailing value of the plain surface, if you ornament know the value of clustered enrichments, and never be afraid of simplicity. RVIA Journal of Proceedings (1903-4), pp.147-151. In 1908, at the time of the publication of his book, Haddon was elected the founding vice-president of the Victorian Arts and Crafts Society.

22 ABCN, Drawings submitted at the Sydney Arts and Crafts Exhibition, 17 December 1892.
Figs. 4.5 & 4.6
Cover of *WAMBEJ*, first published in 1903, and an advertisement in *Australian Architecture*, 1908. Their graphics illustrate an Australian interpretation of the fashionable Artistic movement.
Australian blue skies to highlight picturesque rooflines. He believed it could be achieved by a careful use of gables, towers, bays, orielis and roof masses, with the designer aiming to achieve "a nice sense of true balance." Although he favoured the use of brick and tile as principal building materials, Haddon strongly recommended the use of locally available building materials; his only stricture being, in the Arts and Crafts tradition, that all materials be treated honestly. Acknowledging the work of Lucien Henri, a decade earlier, Haddon recognised the decorative possibilities of Australian flora and fauna and recommended designers "adapt many of these distinct and beautiful forms to the ornamentation of Australian buildings."

Haddon's recommendations on the use of form and materials correlate with those of Joseland, who seventeen years earlier had recommended the use of the homestead form, projecting eaves, wide verandahs, cavity brick walls, terra-cotta tiles and Australian flora and fauna as decorative motives. Similarly Haddon's comments on the potential of roof forms can be traced back to earlier suggestions by writers like Sisley, who attributed the idea of incorporating a "conspicuous roof" to "the great master", Ruskin. That these ideas had been publicly discussed a decade earlier might illustrate how slowly Australian architectural ideas developed, but it might equally indicate that by 1908 the progressive ideas of Joseland, Sisley and other writers had by 1908 been absorbed and accepted into mainstream architectural practice.

23 In Melbourne to extensive use of the hipped M roofline in the 1880s diminished the visual impact of the roof. A high ridge and gabled front gave the roof greater prominence.
24 Ten years later Haddon was to observe, with some concern, that the resulting style was "so virile, so plastic, so picturesque that it is in danger of becoming the happy hunting grounds of fools, .... who gather a window, a door, a gable, a finial to make a design". "Architectural Types", Real Property Annual, (1917), p.49.
25 This "Arts and Crafts" attitude to materials was the basis for Haddon's rejection of tuckpointed brickwork. Australian Architecture, p.7.
26 R. J. Haddon, Australian Architecture, p.40.
Fig. 4.7
Sketch design, small brick and tile cottage, 1908. Haddon’s design was similar to the cottage model in contemporary use.
(Source: R J Haddon, Australian Architecture)

Fig. 4.8
56 Kent Street, Victoria Park, c.1910. A simple weatherboard cottage, in the style of the Millars’ timber house and similar in plan and form to Haddon’s cottage design.
It is difficult to accurately gauge the impact of Haddon's book on architects and builders in Western Australia. Haddon had specifically intended his book to be a standard teaching text; to be read and then frequently referred to by architects and builders and this gave his dictates on planning, use of materials and architectural form enormous influence on the design of housing throughout Australia. Haddon had worked briefly in Perth and, through his activities amongst the art and architecture fraternity, was personally well known. *Australian Architecture* was favourably reviewed in architectural journals in Sydney and Melbourne, but neither a review nor mention has yet been found in WAMBEJ. However, original copies of *Australian Architecture* were available in both state and technical college libraries and therefore it might be concluded that the book was widely read by Perth architects and builders. In making it easier for builders to follow the same line of thought and the same use of form as architects, the book served to legitimate and entrench existing architectural ideas and practices.

(Fig.4.7) There is a similarity between a number of Haddon's illustrated designs in *Australian Architecture* and houses subsequently built in Perth. The plan of the basic Workers' Home, designed in 1912 by a government architect, is very similar to Haddon's sketch design for a lodge cottage, while variations on his design for a small suburban villa can be seen in numerous houses throughout Inglewood and Victoria Park. (Fig.4.8) This is not to suggest that Haddon's designs in *Australian Architecture* were prototypes of house designs in Perth, but his designs were certainly representative of an emerging congruency in architectural thought and building practice, across Australia by 1910.

4.5 Health and Hygiene

In 1909 a English household manual titled "Home and Health" was published in Melbourne. The author stated quite clearly that his principal objectives were to promote amongst the population the virtues of pure air, pure water, good food, suitable clothing, cleanliness, sunlight, exercise, rest, peace, cheerfulness, temperance, employment, regular habits, pure morals and pleasant surroundings. "A malarious area, an impure water supply, low flat country and swamps, or close proximity to some vile factory may prove fatal, in spite of the best principles and
regulations of a well ordered home life." Many ideas associated with hygiene were developed in Britain in response to the poor living conditions in industrial cities. These ideas were accepted wholeheartedly by health officials in Australia, as they tried to prevent the occurrence of similar unhealthy conditions. But while health officials in Perth enthusiastically promoted health standards in housing, persuading governments to commit public funds for an extension of the piped water system and construction of a deep sewerage system was not so easy. As always, government funds for water and sewerage supplies in the city were in competition with demands for other projects. Government politicians, traditionally aligned with rural electorates, carefully weighed the health benefits for city voters against the reaction of their rural constituents. Apart from the obvious health benefits of having a supply of fresh piped water, there was also a financial benefit to property owners. It was estimated that the connection of a residential property to the city water supply improved its value by between £8 and £20. But even a financial benefit to property owners was not enough to guarantee government support for the project. Following a deputation of Perth City Councillors and city parliamentarians to the Premier to discuss the city's water supply, the WAMBEJ editor, reflecting this political rivalry, wrote: "the health and good housing of the people (of Perth), when voiced by the citizens' representatives, is entitled to every consideration, but not at the expense of that population settled in the arid waste and plains inland."

After many years of procrastination the government was finally persuaded to commit funds to the construction of a deep sewerage system in Perth and in his 1906 Budget Speech the State Treasurer spoke of the government's intention of "carrying to a successful completion of the great metropolitan sewerage scheme, which was going to prove such a healthful advantage to Perth and Fremantle." "Successful completion" was a rather optimistic phrase for a politician to use in association with a scheme that was about to be installed. The project was welcomed by the WAMBEJ editor, who suggested that local councils should support the construction of the sewerage system as a means of absorbing some of the

29 Home and Health, p.27.
30 WAMBEJ, 26 February 1910, p.20.
31 WAMBEJ, "City Water Supply", 5 January 1907, p.18.
unemployed. However as no guidelines had been set down by the government for the installation of connections between houses and the sewerage system, it was suggested that architects use the regulations in operation in Sydney and Melbourne as their model. By-laws which regulated the licensing of plumbers and drainers and established procedures for sewerage connections were introduced with the passing of the Metropolitan Water Supply and Drainage Act of 1909. In 1910, due to a shortage of architectural commissions in Perth, the WAMBEJ editor recommended architects be appointed as supervisors of sewerage connections to domestic buildings.

In the following years a series of government contracts for construction of the sewerage system were let. These included contracts for St George's Terrace, Mount Lawley and Fremantle in 1910 and Leederville and East Perth in 1911. Despite a report by Hugh Oldham, Chief Engineer of Sewerage, in 1911 that 500 people already used the system, the installation of sewerage pipes and house connections was an expensive and slow operation. To demonstrate that the cost of sewerage connections in Perth were reasonable Oldham made a comparison of costs to householders in Sydney, Melbourne and Perth. To connect thirteen cottages (sink, bath and closet connections) in East Perth cost £13/18/0 each, in Sydney the average was £14, and in Melbourne £15, superior cottages in East Perth tendered for an average of £25 per connection, Sydney £21 and Melbourne £25, while a villa in Perth averaged £24/3/0, Sydney £24 and Melbourne £32/10/0. These figures make sewerage connection in Perth seem reasonable, but with cost of housing in Perth being lower than the other cities the cost of sewer connections in Perth was proportionately higher. Perth householders were slow to connect to the sewerage system and by 1920 less than one third of houses had been sewered.

33 WAMBEJ, 12 January 1907, p.20.
34 WAMBEJ, 11 May 1907, p.17.
35 WAMBEJ, 14 May 1910, p.17.
36 WAMBEJ, 1 January 1910, p.18 and 4 March 1911, p.18.
37 WAMBEJ, 1 April 1911, p.19.
With the introduction of deep sewerage systems in Australian cities progressive architects and clients reconsidered the location of the bathroom and water closet (W.C.). The traditional location of these facilities at the back of the house was no longer necessary for reasons of hygiene or noxious odours. It was argued that for convenience the bathroom might be best located in a more central position, adjacent to the bedrooms. An article in *Art and Architecture* recommended the bathroom be positioned on the sunny side of the house, the sunshine providing "added pleasure to the morning shower". The article suggested, despite the social opprobrium generally associated with the W.C., that the bathroom could be with or without a W.C., but it should be "well lighted and ventilated" and "convenient to all bedrooms." At the time a few large houses in Perth had bathrooms adjacent to bedrooms and internal WCs, but it was to be many years before these innovations found wide public acceptance.

4.6 Housing Finance

In 1905-6 a sum of £736,000 was raised for residential investment in Western Australia, in 1906-7 the total fell to £522,000, the next year it rose to £948,000, but in 1908-9 it fell to the lowly sum of £375,000. Economic uncertainty affected investors and home builders alike. Investors, hesitant to put their money into new housing, claimed the financial return on their capital was too low. Melbourne contractors claimed the return on building houses in Perth were too poor for them, although the cost of building steadily increased. By 1910 the cost of a typical brick and iron house had risen from £250 to £500, but wages remained fairly stable. One landlord, responding to claims that rents in Perth were still exorbitant, stated that his properties in West Perth only returned between 6% and 7.5% and his properties in the best part of Subiaco returned 7.5% and 9%. Investment in housing became even less attractive as land prices rose; land in West Perth which previously sold at £3/10/0 per foot (300mm) of frontage now cost £7, while land in Subiaco...

38 *Art and Architecture*, Vol.6, No.5, (1909), p.140. This reference to "morning showers" was an interesting comment on Australian bathing habits!
39 R. T. Appleyard, "Economic and Demographic Growth", Table 6.8, in *A New History of Western Australia*, p.232.
40 WAMBEJ, 19 January 1907, p.18.
41 WAMBEJ, 19 November 1910, p.18.
had risen from £1/10/0 to £4. Landlords increasingly faced the problem of tenants "whose time was too pressing to permit them to call and pay (the rent) before they left for parts unknown." Some landlords even claimed difficulty in securing tenants for their properties. In June 1908, the Colonial Consolidated Finance Corporation wrote to the Perth Town Clerk to request that building fees due to the Council for the construction of a number of wash-houses be waived, citing the economic depression and the company's subsequent inability to secure tenants for many of the houses in their estate in Moir and Brookman Streets, despite "large reductions having been made in the rents."  

Millars' Jarrah and Karri Company attempted to turn the issue of rising building costs and high rents into a positive promotion for the sale of timber building materials. Advertisements in the Western Mail featured a neat perspective of a typical house, but one built of weatherboard and iron rather than brick and iron, with the exclamation, "Why rent?" Why rent indeed, it was that familiar argument of whether it was better to pay high rent or repay a housing loan, but in this case the loan would be for a less expensive, but also less prestigious, timber building. To encourage timber sales Millars' stated "we are prepared to assist all people who have land to build a home for themselves", but in a period of unsteady employment, whether it was high rent or high loan repayments the options were not really attractive and memories of past events in Victoria might well have made many people more cautious about buying any type of house.

4.7 Building Industry

The downturn in the building industry which began in late 1906 continued into 1907. As unemployment increased in the building industry the editor of WAMBEJ suggested that it was an appropriate
time for local councils to undertake the introduction of deep sewerage schemes. But local councils were slow to move on this suggestion and unemployment and industrial unrest in the building industry continued to grow. Due to a decline in export markets the major timber producers, led by Millar's Karri and Jarrah Co., attempted to reduce the wages of timber workers from 8 shillings per day to the award rate of 7 shillings and timber workers went on strike. The strike, which went on for fourteen weeks, ended in June after employers agreed to pay workers 8 shillings per day for a 48 hour week, but the strike left a legacy of great bitterness amongst the workforce. More importantly, domestic timber supplies were disrupted and the strike served to undermine the confidence of housing investors and builders. While there was trouble in the timber industry there were also problems in the building industry. A shortage of skilled labourers threatened to force the price of bricklayers from 14 shillings per day to 16 shillings. Claims were made by contractors that bricklayers had been attracted to the eastern states by increased opportunities of work, and there was even the suggestion that bricklayers had gone to San Francisco to participate in the rebuilding of the city. But whether these claims were true or not, their effect was to further erode market confidence. While workers were striking to maintain the present level of wages land prices increased and the cost of building rose. The goal of home ownership gradually moved beyond the reach of many workers and was reflected in the decreasing number of new houses built in Perth.

In 1908 the situation was no better for the building industry, despite attempts by the WAMBEJ editor to put a brave face on it and "talk up" the market with optimistic building reports of the steady advance of suburban housing in areas such as North Perth, "where a large number

45 WAMBEJ, 12 January 1907, p.19.
46 Bunnings Company was unaffected by the strike because the company agreed to continue paying its workers 1 shilling above the award rate. J. Mills, Timber People, p.45.
47 In May, 1907 W. Fairweather made a specific note in his Contract Ledger, p.4, that the cost of laying bricks was 45s 6d per 1,000. This was on the Morning Herald Building, which required 220,000 bricks.
48 WAMBEJ, 23 March 1907, p.18
of residences had been erected during the year.49 In fact the total of one hundred and ten new houses built in North Perth in 1908 was down 30% from the 1906 total and only an increase of ten houses more than the 1907 total. A report in November 1908 gave a more accurate picture of the situation; the building industry was in a slump, tenders had dried up and architects were having a slow period. J. Talbot Hobbs, a prominent architect in Perth, declared the slump had "touched bottom", but despite this he suggested that architects become involved in the work of connecting houses to the new sewerage system. He claimed many Melbourne architects rode out their recent slump in this manner.50

Four months later, despite Hobb's optimistic forecast, the building industry was still quiet. Architects, with little or no work, began to publicly express concern at the relatively large number of houses, in the upper end of the housing market, being built without the involvement of an architect. Some clients and builders believed they could exclude the architect from his traditional role a means to cut housing costs, without compromising the quality of design. However, while many architects were without work, at least one building contractor was known to have built fifteen houses in the year without the assistance of an architect.51 There was little the architectural profession could do about this situation; in Perth the tradition of employing architects to design domestic buildings was not strong and this situation placed them under threat of becoming redundant in the housing market. The response of the WAIA to this threat to the livelihood of its members was to continue to press the government to legislate for the registration of architects and demand that local councils insist that all drawings submitted for a building licence be signed by an architect. The WAIA found little political support for either of these proposals.

By January 1910 the WAMBEJ confidently reported that the prospects for the building trade on the present outlook were good.52 This time the

49 WAMBEJ, 18 July 1908, p.20.
50 WAMBEJ, 21 November 1908, p.18.
51 WAMBEJ, 27 March 1909, p.19
52 WAMBEJ, 8 January 1910, p.19.
prediction held true, activity in the building industry lifted, so much so that there were complaints regarding the tardiness of Perth City Council in processing building permits. In March the editor of WAMBEJ called for the government to encourage "thousands of emigrants of the right class", in the belief that through their demand for housing they would stimulate the building industry and the whole economy. By May concern was expressed over the general scarcity of artisans in the state, and contractors claimed that until there was a better supply of skilled labour, it was likely the construction of buildings would be held up. A month later contractors still complained about building work being held up by labour problems, but a good portion of this rhetoric appeared to be aired for the benefit of keeping a check on workers' wages. It was a tactic the contractors had used before, but this time they might have been telling the truth. At least they were persistent, in October this complaint was still aired. Put plainly, there was still a shortage of building labourers and contractors were concerned that while the state government provided assistance for farmers to migrate to Western Australia, it still followed a policy, adopted in 1906, which did not favour assisted migration to artisans and labourers. Contractors warned that this policy might put Perth's prosperity at risk. The comments highlight the degree to which the building industry, in a state with very little manufacturing industry, had become the litmus paper for the well being of the local economy.

However, 1910 was a year of some improved activity for the building industry. In Leederville sixty new buildings and eighty improvements were carried out, but building costs had risen and the typical brick and iron house now cost on average £500. Mount Lawley was listed as "progressing", but generally the downturn in the housing market over the previous few years had been such that there was now a shortage of good houses for rental purposes.

53 WAMBEJ, 12 March 1910, p.18.  
54 WAMBEJ, 14 May 1910, p.20.  
56 WAMBEJ, 8 October 1910, p.19.  
57 WAMBEJ, 19 November 1910, p.18.
4.8 Building Materials

In 1906 R. M. Hamilton wrote an article about the light construction employed in Western Australian buildings. The following year this topic was the subject of a paper, "Roof Strains", presented by R. H. Downes to the WAIA. Downes, a civil engineer and architect, opened his talk by expressing concern for the light sizes of timber used in construction in Western Australia, as compared with the recommended sizes in standard (British) construction text books. His enquiry centred on the extent to which local building practice as applied to local conditions was in accord with "true" building theory. He quoted a Victorian architect, a principal of a large practice, who said "long experience taught a skilled man intuitively to know the proper sizes of members", but that was not a view to which Downes could comfortably subscribe. He did acknowledge that the conditions under which the British examples were taken were not generally applicable to conditions in Perth and therefore local practice might well be altered to more readily respond to the use of local timber and roofing materials. At the time the typical roof construction in Perth consisted of 4" x 2" jarrah rafters, pitched at 30 degrees with 26 gauge corrugated iron sheets nailed on 2" x 1" battens, which was expected to withstand the loading of a 40 mph wind.58 While the angle of the roof pitch was lowered later to suit the bungalow style the construction of roofing, particularly timber sizes, changed little in Perth over the next fifty years.

Despite a slump in the housing market some manufacturers and suppliers of building materials took the opportunity to cement their hold on the housing market. In 1908 the Wunderlich Company, which had been selling its pressed metal products through various agents decided the local market was sufficiently strong to justify the establishment of a factory and sales office at the corner of Lord and Newcastle Streets, Perth.59 This was the beginning of what was to become Brisbane and Wunderlich, which would eventually expand into the building materials conglomerate, Bristile. Wunderlich produced a wide range of pressed metal ceilings, ranging in pattern and price from renaissance to art

58 R. H. Downes, "Roof Strains", WAMBEJ, 29 June 1907, p.18.
59 Forty Years of Wunderlich Industry, p.179.
nouveau and these were regularly advertised in the local press. Elaborately patterned pressed metal ceilings were used widely in civic and commercial buildings and occasionally in more expensive houses, but generally its use in brick and iron houses in Perth was limited to the ceilings of service areas, the lean-to sections on the back of houses, where its ease of installation on the incline made it a more attractive choice than a lath and plaster ceiling. Pressed metal wall panels were often used to line interior walls and ceilings of weatherboard houses as its use eliminated the need for a plasterer. On the occasions where it was fully used the visual effect of combining different patterns for the dado, upper wall, cornice, ceiling and ceiling rose was remarkable. (Figs. 4.9 & 4.10)

In 1909 an article, "The beauty of the Malthoid flat roof", was printed WAMBEJ. It was clearly a promotional article written specifically to extol the virtues of flat roofs incorporating the use of malthoid sheets. Anticipating the design proposals of Le Corbusier by a decade, the article claimed a flat roof could accommodate many useful functions; sleeping chamber, smoking room, conservatory, or "garden out under the tropical night". The unknown author suggested "there could be nothing more enchanting than the beautiful shores of the Swan River dotted with the wonderful roof gardens of Italy", before concluding with the bold statement that "there is no end to the style and grace and luxury of the modern mansion with a flat roof." The article was an interesting example of how new building products were frequently promoted by manufacturers in architectural and building journals, particularly as in this instance G. Sydney Jones, a prominent Sydney architect, was writing articles promoting the virtues of flat roofs in Art and Architecture at the same time.

60 Weatherboard houses at 35 Vincent Street, Mount Lawley, and 10 Blencowe Street, Subiaco, have very good examples of pressed metal interiors. Brick and iron houses, designed by L. B. Cumpston and built in 1912, at 18-34 Vincent Street, Mount Lawley are a curiosity because of the use of pressed metal ceilings in all rooms.

61 WAMBEJ, 15 May 1909, p.19. Malthoid acquired a reputation as a commercial and industrial building material, however it lacked appeal as a domestic building material and was rarely used for roofing Perth houses.

Fig.4.9
Interior, 10 Blencowe Street, Subiaco, c.1910. The interior of the weatherboard cottage was lined with art nouveau styled pressed metal sheeting for wall cladding, frieze, cornice and ceiling.

Fig.4.10
Advertisement, Wunderlich catalogue, c.1908. A sample of art nouveau patterns in pressed metal sheeting.
While the introduction of individual building materials is of importance in the development of housing the combination of these materials is also of interest. "Castles in Spain", written in 1907 by H. Joseland, a strong supporter of the Arts and Crafts movement, provides a vivid description of his recommended combination of materials and colours in domestic architecture; red brick and buff coloured "rough cast" and perhaps some red-brown herring-bone brickwork on the gable, with dark brown paint for the verandah woodwork and a blue-green for the eaves, windows and doors. All of this was to be topped with silver-grey shingles, which Joseland favoured because they looked suitably aged. "No house is aesthetically complete until it is mellowed by age", he claimed.63 Of course not all architects were in agreement with Joseland's views and G. Sydney Jones, later to be president of the NSWIA, expressed scorn for current design in "A Word concerning Australian Domestic Architecture" (1909). Jones taking direct aim at Joseland's earlier comments claimed "the few shingles tacked on in one place, a patch of stucco adjoining, together with some fantastic shapes in woodwork and some coloured brickwork thrown about here and there, suggest at once the restless spirit of the owner as well as the designer."64 "Home for most people spells rest and quietness" he argued, and yet he conceded that perhaps the restlessness of the current architecture was but a reflection of the restlessness of the times. Jones did not favour the mixed style, later to be called the Federation style; rather he favoured the simplicity to be found in refined forms, simple colour schemes and restraint in the use of ornament.

In his architectural views Jones was in the minority, and by 1909 the architectural amalgam of Arts and Crafts, Queen Anne Revival and Art Nouveau had gained widespread popularity in the newer suburbs of Melbourne and Sydney and reports in the building journal made sure architects and builders in Perth were aware of the stylistic details. A typical article reported that "the predominance of red brick and Marseilles tiles is noticeable and the elaboration of the roof to give

variety and form to the dwelling strikes the eye. There has been quite a
boom in these detached villas."65 The style was not uncommon in the
suburbs of Perth; Mount Lawley and North Perth featured many similar
houses, although more often with corrugated iron roofs rather than the
more expensive terra-cotta tiles. These reports from the eastern states
served mainly to confirm that housing in Perth was as up to date as
elsewhere in Australia. (Fig.4.11) Local architects such as Harold Boas
and C. L. Oldham were most adept at handling the picturesque quality of
the Federation style as can be seen in Mount Lawley, North Perth and
Nedlands.

4.9 Housing

The lower rate of population growth and economic uncertainty of the
period was reflected in a lower demand for housing. This was clearly
evident from the lower number and value of building permits issued in
the inner suburbs in the period 1906 to 1910. In a society which held a
suburban lifestyle in high regard it was not unexpected that permits for
new buildings in central Perth should decline as the inner city area was
built out and, correspondingly, further increases would take place in the
suburbs immediately surrounding the central city; North Perth,
Leederville and Subiaco. (Table 4.1) A comparison of the number of
licences issued for new houses in these suburbs produces a better picture
of the fluctuations in the housing market over the period.

It is apparent that Subiaco had a growth pattern which was inconsistent
with the other suburbs, but this might be explained by the fact that it
was the oldest and therefore most densely developed of the three suburbs.
The low level of building activity in all suburbs was consistent with the
lower level of economic activity in the state.

Fig. 4.11
Plan, 47 Alma Road, North Perth, 1907 Designed by C. E. Connop, it is an example of suburban villas designed by architects.
<table>
<thead>
<tr>
<th>Year</th>
<th>Perth</th>
<th>North Perth</th>
<th>Leederville</th>
<th>Subiaco</th>
</tr>
</thead>
<tbody>
<tr>
<td>1906</td>
<td>394</td>
<td>160</td>
<td>110</td>
<td>224</td>
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<td>191</td>
<td>100</td>
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<tr>
<td>1909</td>
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<td>83</td>
</tr>
<tr>
<td>1910</td>
<td>131</td>
<td>124</td>
<td>83</td>
<td>62</td>
</tr>
</tbody>
</table>

**Table 4.1 Annual Issue of Building Licences**

(Source: WA *Statistical Register*, Part X1, Local Government, (1906-1910). Separate figures for building licences were not listed prior to 1906)

The Millars' timber house, first advertised in Perth newspapers in 1906, is worthy of study, because it was designed specifically to provide the popular section of Perth's housing market with an affordable house, utilising Millars' timber products, but more importantly it illustrates that a number of stylistic changes had filtered down from the architect designed house to the popular house. (Fig.4.12) When Millars found their export market shrinking in the latter part of the decade they tried to expand the local market for their timber products. They took advantage of the more difficult economic conditions in Perth as a means of persuading home buyers to switch from expensive brick and iron construction to the less expensive timber and iron. For this strategy to be successful Millars had to overcome the social stigma already attached to timber housing in Perth and therefore the Millars' house needed to be as stylistically attractive to the home buyer as any contemporary brick and iron house, while maintaining its economic advantage.

The L-shaped plan with infill verandah of the Millars' house was a popular choice because, for little extra cost, it produced a more picturesque formal effect than the traditional rectangular plan. By 1906 this form was well established as a model for speculative houses in Perth.
WHY PAY RENT?

...MILLARS'...

WE ARE PREPARED TO ASSIST ALL PEOPLE WHO HAVE LAND TO BUILD A HOME FOR THEMSELVES.

BRANCHES:
- KALGOORLIE
- BOULDER
- NORTHAM
- BEVERLEY
- WAGIN
- NARROGIN
- PINGELLY
- MIDLAND JUNCTION
- NORTH FREMANTLE
- MAYLANDS
- CLAREMONT
- SUBIACO
- BUNBURY
- GERALDTON
- ALBANY

STOCKS:
- JARRAH
- KARRI
- BLACKBUTT
- OREGON
- BALTIC
- REDWOOD
- CEDAR
- KAL'RI
- V.D.L.
- GALVANISED IRON
- PLASTER
- CEMENT
- BUILDERS' HARDWARE
- ETC., ETC.

Joinery Work of all Description Executed.
Estimates Free.
Wooden Buildings a Specialty.
Plans and Prices Submitted on Application.
All Correspondence to be Addressed to HEAD OFFICE, LORD-ST., PERTH.

Fig.4.12
Millars' timber house, 1907. The illustrated advertisement was run consistently from 1907 through to 1912, as Millars tried to attract home buyers unable to afford a brick house.
(Source: Western Mail, 1907)
and was to continue in use for many years. (In the 1920s it was to be successfully incorporated into the "Californian bungalow" style.) However, the most notable formal transformation from the earlier popular Italianate style, evident in the Millars' house, was the inclusion of casement windows on the front facade and the incorporation of the verandah as a continuation of the roof, although often at a slightly different angle. Both these changes had been introduced into Australian domestic architecture by architects in the 1890s, the former as part of the Art Revival and the latter as part of the imagery of the Australian homestead.\textsuperscript{66} While altering the connection of the verandah to the body of the house was a relatively simple change for local builders to undertake, the widespread use of three light casement windows required their mass production by timber joinery firms in Perth, such as Millars, at a price that made them an affordable alternative to the more traditional double hung sash window. Despite the widespread incorporation of casement windows on the front facade of houses, double hung sash windows continued to be used for side windows up until the 1920s and therefore the use of casement windows for reasons other than style has to be questioned.

The commercial success of the Millars' house can be gauged from the advertisement's continuous appearance in local papers until 1912, at which stage it faced strong competition from the government's Workers' Home Scheme. Produced for the lower end of the housing market examples of the Millars' house are found in the less expensive suburbs of Perth, particularly Victoria Park and Shenton Park.

4.10 Gardens

It is appropriate to briefly focus on the issue of gardens in this section of the study. For many years public interest in gardening as a leisure activity had been encouraged throughout Australia. Politicians and

\footnote{\textsuperscript{66} Early examples of this style of house are discussed by Conrad Hamann in "Nationalism and Reform in Australian Architecture, 1880-1920", \textit{Historical Studies}, Vol.18,(Aug.) 1979. Haddon illustrated this type of roofing detail in Middleton's \textit{Modern Buildings, Their Planning, Construction and Equipment}, Fig.238, p.193, and \textit{Australian Architecture}, Plate LXXV, p.361.}
Fig. 4.13
Garden suburb, Coventry, c.1905. Designed by Parker and Unwin, the two storey houses, with little private garden, illustrate a British image of ideal housing.
(Source: H Fraser and R Joyce, The Federation House)

Fig. 4.14
Garden suburb, Haberfield, c.1905. The detached house set in its own pretty garden is an Australian image of ideal housing.
(Source: H Fraser and R Joyce, The Federation House)
social leaders in Western Australia, in much the same manner as their British counterparts, believed that gardening was a means of keeping people productively occupied in their leisure time and therefore out of harm's way. In 1892 George Throssell stated in parliament that he "could point to many instances where men instead of spending half their holidays and all their spare time loitering about public houses now spend them cultivating and improving their own little gardens."67 The creation and maintenance of a garden as an extension of the domestic idyll was broadly promoted by the romantic illustrations of Kate Greenaway and novelists and professionally reinforced by architectural delineators. The illustrated garden established a social context for the house and therefore was an important aspect of the overall architectural design. Equally the idyllic suburban lifestyle was cleverly promoted through illustrations of streets of neat houses in pretty garden settings. (Figs.4.13 & 4.14) Haddon even wrote a short chapter on gardening in Australian Architecture.

Like so many other issues associated with housing in the late nineteenth century, gardens and gardening were entwined with the broader issues of public health and public welfare.68 Haddon wrote "strong advocates should at all times be found to press forward the great value of tree-planting and garden-making in Australia."69 He believed green shade, shadows and shelter from the harsh Australian sunlight were essential, assumed everyone would prefer streets lined with trees and believed that public gardens were necessary for the public health and public good. "To the man who builds, therefore, it is natural to garden," he wrote, as though it was a self evident truth. (Fig.4.15) This idea had certainly been widely promoted in the early 1890s through the introduction of Arbour Day, on which day school children were encouraged to plant trees and reinforced later in the decade with the ideals of the Garden City movement.

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67 PD WA 2 1892 703.
68 R. Dixon & S Muthesius, Victorian Architecture, p.68. An advertisement promoting Bedford Park as the healthiest suburb in the world, stated that every house had "a garden and a bathroom with hot and cold water".
69 R. J. Haddon, Australian Architecture, p.198.
Fig. 4.15
Site plan of a large house, 1908. Haddon's design sets the house in its garden, with an indication of the planting.
(Source: R J Haddon, *Australian Architecture*)

Fig. 4.16
Street plan, corner of Almondbury Road and Clotilde Street, Mount Lawley. It illustrates the setting of houses well back from the street, to one side of the site and surrounded by their gardens.
An earlier writer had suggested that clever planting might disguise ordinary architecture, but later writers emphasised that a house without its garden would be missing something. Curiously for someone who advocated an architecture based on Australian conditions, Haddon did not promote the creation of a "natural" garden but argued that the role of the garden was to mediate between wild nature and the building, creating harmony between the two. "The garden should first of all be part of one general scheme with the house," wrote W. R. Butler. This strong emphasis on planting gardens is quite apparent in Perth, where the presence of mature street trees and gardens in the older suburbs, West Perth, North Perth, Subiaco and Victoria Park, is evidence of this horticultural interest. Relatively large residential lots with houses set well back from the street gave ample opportunity for the creation of garden suburbs. (Fig.4.16) Despite the climate and the shortage of water the plants in the front and side gardens were primarily exotic (European) rather than native, arranged to frame the garden path and tie the house into the site. The area at the back of the house included the W.C., sheds and the occasional garage and was used for utilitarian rather than decorative purposes. The backyard often served for growing fruit trees, vegetables and perhaps a 'chook run'.

The interest in gardens as an essential part of a suburban lifestyle was to continue for years beyond the period of this study, but in his comments on houses in Perth in 1919 A. R. L. Wright specifically mentioned the pleasant effect achieved by linking the house to its site through a careful arrangement of trees, shrubs and walks.

4.11 Summary

As the buoyant economic period of early 1900s gave way to harder economic times the effects were felt in the housing market. For the wealthy members of society it meant a degree of restraint and a need to commission houses designed to place less reliance on domestic servants for their efficient maintenance. In the broader section of the community static wages, uncertain employment and rising building costs had an

impact on the standard of housing in Perth. In August 1910 the editor of *WABEMJ* questioned how it was that local councils had issued building permits for a very large number of houses which were of a poor standard; "a disgrace to any suburb."\(^{71}\) A month later the editor complained of houses being built on lots which were too small, resulting in houses being too close together, which it was thought was quite unnecessary given the vast amount of available residential land in Perth. Again, it was the local authorities which were chastised for having permitted the land to be subdivided into small allotments.\(^{72}\) Both these comments indicate the differences which existed between the housing standards set by public arbiters and the houses which the market place was willing to pay for or could afford. If, in a period of economic hardship, the social goal of home ownership could only be achieved by purchasing a smaller plot of land and building a brick and iron house of lesser standard, or building a timber and iron house, then that was the price that many families in the community were willing to pay.

In architectural circles the shift to a more informal domestic design, one more attuned to lifestyle, local building materials and climatic conditions in Australia, as confirmed in Haddon's *Australian Architecture*, was increasingly evident, not only in the larger suburban houses of Perth, but also in the middle range of houses. The preference for an Arts and Crafts inspired aesthetic, incorporating sweeping terra-cotta tiled roofs, exposed timber rafters and decorative timber fretwork was now more apparent in Perth, although corrugated iron sheeting was still the predominant roofing material.

The brick and iron detached house, sited on a quarter acre suburban lot (506 square metres), was well established as the preferred housing model in Perth, but in the later part of the first decade it became increasingly difficult for the average worker to afford.

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72 *WAMBEJ*, 3 September 1910, p.19.
5. RISING COSTS (1910-1915)

5.0 Introduction

In the 1910s the cost of housing in Perth continued to escalate and housing became a key political issue. Where previously the cost of building had been relatively stable and home ownership was seen to be within the financial reach of a large percentage of the population building costs now increased at an alarming rate. A house that cost £500 to build in 1906 cost £710 in 1911.1 This might not have been a problem if wages had risen correspondingly, but the recent economic depression had constrained wage increases. Home ownership inexorably moved beyond the reach of many workers. By 1911 the issue of affordable housing in Western Australia had become an important political issue and both parties included proposals for government support in the housing market in their election policies. Politicians recognised that home ownership should be an achievable goal in Western Australia. In late 1911, the landslide victory of the Labor Party, sometimes discursively referred to as "Kalgoorlie socialists", signalled a change in the role of government; a change that had particularly important consequences for the housing industry.

5.1 Labour Costs

During the recent economic recession investors deserted the housing market and this resulted in a break in land speculation. Consequently suburban land prices depreciated, relative to values of the previous four or five years earlier, but while this drop in land prices partially offset increased costs of building materials and labour, it was not sufficient to keep housing at an affordable level for a majority of the population.2 The editor of WAMBEJ, the unofficial spokesman for the Master Builders and Contractors Association, stated that the escalations in building costs were cause for concern. He suggested there were several reasons for the

1 WAMBEJ, 24 June 1911, p.20. Despite this rapid increase, housing in Perth was still relatively inexpensive. In 1911 a typical brick house in Melbourne cost £1,100 and a timber house £740. Real Property Annual, (1913), p.59.
2 WAMBEJ, 15 April 1911, p.18.
increases; building contractors were taking a greater profit, the rate of workers' wages was exorbitant, workmen were less productive, prices of materials had risen and more work was incompetent. It was a damning litany of problems for the local building industry and there was no suggestion that these problems were likely to be quickly resolved.

By 1911 the housing industry was stagnant and there were suggestions that an active immigration policy would stimulate a demand for housing, but the Australian Labour Federation opposed the idea. The Federation argued there would not be enough employment for the migrants, especially when there was currently not enough work to justify training apprentices. Building contractors claimed this was no more than an argument by unions for maintaining a closed shop to ensure the employment of union members was not threatened, coming at a time when trade unions had an increased role in industrial affairs in Perth, particularly in the building industry. With the housing market in a trough, manufacturers of building materials and building contractors were anxious to keep the level of workers' wages as low as possible, but as wages lagged behind the cost of living and employment opportunities shrank more workers turned to trade unions to maintain their living standards. It was a situation likely to lead to industrial conflict and in August 1910 Sanders, the president of the Master Builders and Contractors Association, warned that "while recognising the right of every worker to a living wage, it should be demonstrated that if wages were raised too high it would make building prohibitive." Across the nation there was labour unrest and employers in Perth claimed their workers were being unsettled by events in the eastern states, leading to demands for increased wages.

High wages and costly building practices were blamed for the escalating cost of housing. Echoing the words of Sanders, the editor of WAMBEJ

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3 WAMBEJ, 13 May 1911, p.19.
4 WAMBEJ, 17 June 1911, p.19. In 1911, due to government assistance, the number of immigrants almost doubled from 6,312 to 11,923, but in 1912 it dropped back to 6,344.
5 WAMBEJ, 20 August 1910, p.19.
6 WAMBEJ, 25 February 1911, p.19.
complained that "the cost of day labour work in the recognised manner is so costly that it has practically made residence building prohibitive, in spite of the great demand for houses that exists at the present time." The difference in cost and productivity between a subcontractor and day worker was substantial. In 1913 bricklayers on piecework rates (subcontractors) were paid 27s 6d per 1,000 bricks, with a brick layer earning approximately £7, or £8, per week; a day labourer cost between fifty and sixty shillings to lay 1,000 bricks. Naturally, more building contractors chose to employ pieceworkers (subcontractors), rather than pay day labourers exorbitant wages.

As the building industry in Perth came under the influence of trade unions industrial problems were never far from the surface. In September 1911 the brickmakers went out on strike for higher wages. WAMBEJ, with a headline of "Threatened Dislocation of Building Operations in Perth and Fremantle", voiced little sympathy for the strikers, claiming there was plenty of building work available, good wages for workers and good profits for manufacturers and therefore the strike was at best unnecessary and at worst likely to set back any recovery in the building industry. In a city where so much housing was constructed in brick any disruptions to the production of bricks had enormous consequences on the whole building industry. In October 1912 bricklayers went on strike for a guaranteed wage of fourteen shillings per eight hour day, but the Master Builders and Contractors Association stood firm and agreed to only pay the award rates of thirteen shillings per day for work within five kilometres of the Perth and

7 WAMBEJ, 17 August 1912, p.18.
8 These figures are high when compared to the 45s 6d per 1,000 bricks Fairweather was paying in 1907: a time when prices were high due to a labour shortage.
9 WAMBEJ, 6 January 1913, p.19. These building wages have to be balanced against average weekly wages as listed by G. N. Snooks, "Development in Adversity", in A New History of Western Australia, Table 7.5, p.244; the nominal average weekly wage for males in Western Australia was £3/1/6 in 1911/1912 and £3/2/6 in 1912 1913.
10 WAMBEJ, 16 September 1911, p.19. The West Australian editor in his annual summary reflected that a population so willing to vote so heavily in favour of a Labor government was probably also of a frame of mind to take industrial action. (1 January 1912, p.6)
Fremantle town halls and fourteen shillings per day for work within a five to twenty-three kilometres radius. The industrial action of bricklayers was followed by a demand by the plasterers' union for new working conditions and a closed shop and then a push by building labourers to be paid a 48 hour wage for 44 hours of work. This industrial action was left unresolved and continued to cause disruptions to the building industry throughout 1913. The debate over the high cost of using day labour and piecework continued well into 1914, with the WAMBEJ editor claiming that day labourers laid approximately 300 bricks per day, while a subcontractor on piecework laid 1,000 bricks. Based on these figures, the continued use of day labour was costing home buyers dearly and it was in the interest of builders and home buyers to have piecework labour more widely used. Building unions were clearly not in favour of this change as it would affect the working conditions of union members.

Industrial unrest continued to affect the building industry in 1914. In May 1912 the Timber Workers' Union had submitted a wage claim of 9 shillings per eight hour day. The Sawmillers' Association accepted the claim, but in November union members pressed a further claim for 9s 6d per day. The sawmillers strongly resisted this new claim and intermittent industrial strife dragged on until January 1914 when the union finally accepted the 9 shillings per day wage for a 48 hour working week. In April a strike at Millars' timber works over the use of non-union labour caused widespread disruption in the building industry. The carpenters at Millars were locked out for two months before returning to work on 16th June. Meanwhile, disruptions to supplies of building materials caused some 3,000 members of the building industry to be temporarily thrown out of work.

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11 WAMBEJ, 14 December 1912, p.18.
12 WAMBEJ, 14 December 1912, p.18.
14 WAMBEJ, 24 January 1914, p.2.
15 J. Mills, Timber People, p.53.
16 WAMBEJ, 2 May 1914, 6 June 1914 & 20 June 1914. J. Mills, Timber People, pp.55-56 provides details of Bunnings' response to the strike.
While industrial action continued to plague the building industry the cost of building materials and labour steadily increased. The editor of the WAMBEJ repeatedly warned that industrial unrest threatened the stability and economic viability of the building industry, undermined investor confidence and was the prime cause of a lack of activity in a housing market which was already sluggish.\footnote{WAMBEJ, 1 February 1913, p.19.} The rising cost of housing certainly deterred the average worker from achieving home ownership and investors, worried by the industrial instability, withdrew their financial support from the housing market, and as a consequence the building industry in Perth experienced a slump, which was to continue until the outbreak of war.

5.2 Building Materials

The steadily increasing cost of building materials was one of the prime causes of the rising cost of housing in Perth. Bricks, which cost £1/15/0 per 1,000 in 1910, increased to £2/10/0 in 1911. The newly elected Labor government, which included union leaders from the building industry, believed these high prices were being secretly fixed by cartels of the suppliers of building materials. The Millars' Karri and Jarrah Company already dominated the timber industry in Western Australia and it was evident that Robert Law was gradually moving to dominate the brick manufacturing industry in Perth. Law achieved this goal in 1913, when he bought Thomas Coombe's brickworks in Armadale and became the largest brick manufacturer in the state. This situation prompted questions regarding the rising prices of building materials to be asked in parliament and eventually prompted the Labor government to establish its own sawmills and brickworks.

The new Labor government in Western Australia closely watched developments in other states with Labor governments, particularly New South Wales. In 1911, when the price of bricks in Western Australia was of concern to the government, production at New South Wales government's State Brickworks was discussed in parliament. The State Brickworks had recently been extended and was now capable of...
producing one million bricks per week. As a consequence the price of bricks in New South Wales had dropped\textsuperscript{18}, while "the combine" increased the price of bricks in Western Australia. This example of state enterprise keeping the price of building materials in check prompted the Member for Forrest, union leader Peter O'Loghlen, to ask if the government proposed to build its own brickworks? The government's response was in the negative, but the implicit threat of the government operating its own brickworks may have had a sobering effect on the brick manufacturers and in 1912 the price of bricks dropped marginally, from £2/10/0 to £2/7/6 per 1,000.

While the Scaddan Government initially expressed a disinterest in owning a brickworks, it soon passed the \textit{Government Trading Concerns Act} of 1912, which permitted the establishment of state owned trading companies. The government believed its action might break the monopoly of the large private cartels and therefore keep a check on the price of building materials. This policy was based on the example of the New South Wales government, which had started a number of state owned industries in 1911. In 1913 the West Australian government opened its first sawmill, with the indirect assistance of the federal government, which awarded the mill the contract to supply timber sleepers for the new transcontinental railway. This state owned venture was followed by the opening of the State Brickworks at Byford, in 1915. In this instance the financial success of the brickworks was guaranteed by a government contract to supply bricks to the Workers' Home Board.\textsuperscript{19}

Governments in Western Australia had traditionally supported local industries, providing whatever contractual assistance they could to encourage the growth of new industries. Robert Law, the Scaddan government's bete noir, had previously benefited from numerous government contracts to build bridges, and Whittaker's joinery works were supported by long term government contracts to supply school furniture. In the early 1900s the government had specified the use of terra-cotta roofing tiles manufactured at Woodbridge in preference to

\textsuperscript{18} PD WA 41 1911 608
\textsuperscript{19} WAMBEJ, 27 December 1913 p.19. In 1913 the Workers' Home Board called for tenders to supply 750,000 bricks, a major boost for local building suppliers and indicative of the stimulation which the Workers' Home Scheme provided to the local economy.
imported French tiles for the new parliament house, although this choice proved to be expensive when the tiles failed to be fully waterproof and had to be replaced with imported Marseilles tiles. To overcome these problems the government provided technical assistance to manufacturers. In 1912 the analytical chemists in the state's Geological Survey and Mines Department researched various clay deposits in an effort to find the right materials for the local production of effective terracotta roofing tiles. This assistance resulted in the successful growth of clay product companies such as William Atkins's Stoneware Pottery Company in Brown Street, East Perth, one of the first firms to successfully produce terracotta roofing tiles in Western Australia.20

The government's encouragement of the local manufacture of terracotta roofing tiles came at a time when corrugated iron sheeting, a building material that had become synonymous with Australian domestic architecture, particularly in Perth, was increasingly subjected to negative comments in building journals. "Architects should impress upon their clients the unsightliness of iron roofs, when slate or tiles can be used to much better advantage. Melbourne and Sydney have, as a rule, cut iron out for that purpose and why should the leading architects of Perth not do likewise?" was a typical example of the growing negative response within the architectural community to corrugated iron sheeting.21 The corollary to this negative attitude to corrugated iron was an increased use of terracotta tiles across a broader section of housing in Perth. As the demand for terracotta tiles increased their cost dropped, relative to other roofing materials, and as the cost dropped the demand increased.22 The supply and demand cycle for terracotta tiles was on the rise. The First World War in Europe created a shortage in the supply of corrugated iron sheeting and by 1916 this resulted in a sharp price increase to £33/5/0 per ton. The importation of French terracotta tiles was also disrupted by the war, however manufacturers in Perth took the

20 B. Moore, From the Ground Up, p.61. An example of these tiles can be found on the roof of the Leederville Post Office, indicating the government's commitment to use locally manufactured building products in government buildings.
21 WAMBEJ, 15 April 1911, p.18. The reference to the use of slate roofing in Perth in 1911 is interesting, because there is now so little evidence of its use.
22 WAMBEJ In 1904, 26 gauge Custom Orb corrugated iron cost £18/5/0 and terracotta tiles were £2/10/0 per square, in 1914 the respective costs were £20 and £2/12/6.
opportunity to boost local production and consolidate their share of the market. The success of this marketing strategy was such that in 1918 the Wunderlich Company, previously a large importer of Marseilles tiles, opened a tile manufacturing plant adjacent to its Lord Street factory, initially producing 12,000 tiles per week.\textsuperscript{23} Local production, a declining price and a positive press ensured the eventual triumph of terra-cotta tiles as the premier domestic roofing material in Perth, meanwhile the use of corrugated iron sheeting correspondingly waned.

5.3 Government Initiatives

In the first decade of the 20th century the role of government in Western Australia and other states in Australia changed as a result of the electoral successes of the Labor Party. The Labor Party stood on a platform of social reform, which committed the government to take an interventionist role in shaping society. This was evident in the eastern states, particularly in New South Wales, and was evident in Western Australia when Scaddan formed the Labor government in October 1911, with a thirty four to sixteen majority in the Legislative Assembly.

Prior to the gold-boom of the 1890s Western Australia had experienced many years of economic hardship, but from the beginning of settlement the British colonial government adopted a policy of non-intervention in the affairs of individual colonists. The housing and welfare of settlers in the Swan River colony was always a matter of individual capability and responsibility, but with the granting of self government, introduction of electoral reform and the formation of the Labor Party in Western Australia the role of government changed. Male suffrage ensured a large turnout of working class voters, a number of union leaders, including J. B. Holman and Peter O'Loghlen, were elected to parliament and the youthful Labor Party was committed to social legislation which protected the welfare of workers. When the Labor Party won government with a landslide vote in late 1911 it put these policies of social reform into practice. It was apparent that workers found it increasingly difficult to finance the acquisition of their own houses and Scaddan's Labor

\textsuperscript{23} B. Moore, \textit{From the Ground Up}, p.63.
government introduced legislation to ensure affordable housing for the workers of Western Australia, including a subsidised housing scheme.

There was little precedent for this type of legislation in West Australian on which the Labor Government could build. The previous Labor government, led by Daglish, was in power for only a matter of months in 1904. When implementing his party's policies Scaddan looked elsewhere in Australia for political models. In the 1890s political and social commentators had recognised Melbourne as the progressive Australian metropolis, but in the 1900s the focus shifted to Sydney. Increasingly it was the legislation of the Labor government in New South Wales and the architecture of Sydney, which were referred to in Perth. This was evident in the plans to establish state owned building industries and to subsidise the construction of workers' homes in Western Australia.

Local government was also subject to political pressure. Municipal councils were expected to provide more public services and take greater control of the housing, retail, commercial and industrial developments within their boundaries. The problems associated with numerous councils separately negotiating with transport companies and utility companies supplying water, gas and electricity highlighted the need for a co-ordinated approach to planning the future growth of metropolitan Perth. Local councils in Perth were aware of planning ideas being developed overseas and council officers, such as Bold, strongly argued the benefits of introducing planning legislation. In 1909 the Conference of Municipalities discussed a proposal to form Greater Perth and Greater Fremantle municipalities, along the lines of the Greater London Council, in the belief that an amalgamation of local councils would allow for a more comprehensive plan for the city.24 This idea grew and in 1911 Perth City Council resolved: "That in the view of the expansion of the City of Perth, and the necessity which exists for providing for the requirements of the future, the Councils of Subiaco, Leederville, and North Perth and the Perth Road Board be requested to join with this Council in the appointment of a joint Committee to formulate a scheme or

24 At the same time W. B. Hardwick, Principal Architect in the PWD, was drawing up a grandiose proposal for a City Beautiful civic centre for Perth.
schemes for the improvement or remodelling of the City and its suburbs from traffic, aesthetic and sanitary points of view." The resolution referred to extending railway and tram facilities, widening streets, providing for parks and reserves, all aimed at adding to "the attraction and beauty of the City and its suburbs." The resolution was proposed by J. L. Ochiltree, the chairman of the Council's Works Committee and prominent Perth architect. The municipalities of Perth, North Perth, Leederville, Victoria Park, Subiaco, parts of the Perth Road Board (Maylands and Mount Lawley) and South Perth held discussions on the subject. Subiaco, the Perth Road Board and South Perth soon withdrew, but the others persevered with the idea and in 1914 the Perth, North Perth and Leederville municipalities amalgamated. They were joined by Victoria Park in 1917.

Leading the push for the formation of a Greater Perth was Perth Town Clerk, W. E. Bold, a strong believer in the benefits of town planning and supporter of the Garden City movement. In May 1914 Bold attended the Imperial Health and Town Planning Conference in London and then in July was the sole Australian representative at the conference of the International Garden Cities and Town Planning Association. He visited model towns and garden suburbs at Letchworth, Bourneville, Port Sunlight and Hampstead. He returned to Perth convinced that "medical certificates demonstrate the value of the garden city concept". In Mannheim, Germany, he was impressed by the city's fixing of the height of buildings relative to the width of the street and the use "districting", or zoning areas according to land use. In the USA he was "charmed" by the beautiful effect achieved in the suburbs by the removal of side boundary fences and their habit of having a 4'6" wide footpath and the rest of the verge planted with grass and trees. He reported all these ideas to Perth City Council on his return and began to implement similar planning policies wherever possible.

Planned housing developments, based on garden suburb ideals, had been proposed at Hopetoun, Melbourne, in the early 1890s, but it was at

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25 PCC Minutes, 24 July 1911.
Haberfield and Mount Lawley in 1901 that the first planned garden suburbs were established. In 1912 the New South Wales government began building a garden suburb of workers' housing at Daceyville. The imagery of the garden suburb was promoted in an informal way in numerous suburbs of Perth in the 1910s, but it would be in the 1920s that garden suburbs were planned in areas beyond the goldboom subdivisions, including Wembley Downs and Osborne Park.27

Municipal councils continued to modify their building by-laws as a means of improving local housing standards. Councils increasingly designated new neighbourhoods in which only brick construction was permissible; in 1910 North Perth Council decreed that all houses within the boundaries of Fitzgerald, Marmion and Burt Streets (east to Norfolk Street) were to have brick or stone walls set on solid footings, and in 1913 Subiaco Council designated the Esplanade and the Avenue in Nedlands Park as "brick only" streets.28 In 1913 Perth City Council was reported to be reviewing its building by-laws, but a year later there were reports of hold-ups and delays in the completion of the new by-laws and it appears that nothing came of it.29

5.4 Workers' Homes

The lack of investment in housing and low level of building activity in the previous few years meant that by late 1911 there was a shortage of houses available for rent. It was difficult to find suitable accommodation in Perth and any available housing was expensive.30 The problem was not a shortage of investment capital for housing in Western Australia, but rising costs meant less houses were built and, because of the cost

28 WAMBEJ, 19 March 1910, p.20 and Government Gazette (WA), 16 May 1913, p.1834, respectively.
29 WAMBEJ, 5 April 1913, p.20, and 25 July 1914, p.18.
30 WAMBEJ, 8 April 1911, p.19. A month later the editor suggested that a house and land package of £500 would be suitable niche for the investor, but this price was beyond the reach of most workers. (15 April 1911. p.19)
houses were built by investors rather than owner occupiers. The pursuit of home ownership had been a fundamental element within West Australian society since first settlement in 1829, therefore when the cost of housing reached a level at which it was difficult for the majority of workers to purchase a house and establish their family home and housing rents were high, Scaddan’s Labor government felt it politically and ideologically sound to introduce a housing policy which would "enable people of limited means and dependent on their own exertions for the support of themselves and their families to provide permanent homes." It was "virtually a Bill to reduce the cost of living in Western Australia.”

The Workers’ Homes Scheme fundamentally changed the political complexion of housing in Western Australia from the traditional to the utopian. What began as the unwritten right of the individual to pursue home ownership became the legislated role of government to assist the individual to own a home, and eventually evolved to the responsibility of government to provide the individual with a home.

The Labor government held a thirty four to sixteen majority in the Legislative Assembly. The Opposition could do little to obstruct the bill in the lower house, but even in the upper house where it held an overwhelming majority Opposition debate concentrated on clauses in the Bill which governed the financial operations of the scheme, rather than a direct challenge to the basic concept. In introducing the Workers' Home Scheme the government was being more than altruistic; Western Australia had few local manufacturing industries, and the building industry, encompassing skilled tradesmen, unskilled labourers,

31 R. T. Appleyard, "Economic and Demographic Growth", Table 6.8, in C. T. Stannage (ed), A New History of Western Australia, p.232. In 1911 Walter Lay built three houses in Francis Street, Subiaco, which he then let to tenants until he sold the houses in 1915, by which time there was a shortage of houses.


33 J. M. Drew, Colonial Secretary, PD WA 41 1911 1320
brickmakers, mill workers and many other associated trades, was a major source of local employment. Any scheme which could boost demand in the building industry would increase employment and provide a stimulus to the state's economy. A government which could provide workers with both employment and affordable housing was politically astute, not just utopian.

Public response to the Workers' Home Scheme was relatively mute; the editor of the *West Australian* agreed that "the broad idea in itself is admirable", but he was wary of the proposed tenancy scheme, which might substitute the conventional landlord with that of the state. He believed a worker wanted to own his land outright; to be "monarch of all that can be surveyed from his front fence to his back fence."34 The response from the editor of the *WAMBEJ* to the scheme took a similar line. He thought "every worker - everyone who is thrifty - wants to own his own house and the land it stands upon. He stoutly declines to see landlord rule, either by State or private ownership, with him as a leaseholder, and can anyone blame him for this very proper ambition."35 Underlining the concern of both editors was a fundamental issue associated with home ownership in Perth, and elsewhere in Australia; the difference between home ownership as a means of securing the social well being of the family and home ownership as a means of financial investment, the house as something to be bought and sold for profit. The Labor government in Western Australia saw the former objective as being of prime importance, while the entrepreneurial building industry favoured the latter.36 The Scaddan government believed that many workers, trying to escape the tyranny of continually paying high rents, would be pleased simply to have a secure roof overhead, even without

34 *West Australian*, 12 December 1911, p.6. The editor was concerned that under the land and house option in the housing scheme the government would retain the leasehold on the land. The legislation required that any householder who wanted to sell a Workers' Home built on government land would have to sell it through the Workers' Homes Board; a measure included in the legislation to thwart speculators.

35 *WAMBEJ*, 25 May 1912, p.18.

36 A contemporary article on home ownership in Victoria described trade in domestic property as being "one of the most firmly established lines of local finance." *Real Property Annual* (1914), p.73.
land tenure. For such a major innovation, there was a surprising lack of public comment on the merits and faults of the Workers' Homes Scheme in the letters pages of newspapers. Perhaps the benefits of the scheme were widely and uncritically accepted by the electorate.

While few people voiced opposition to the introduction of the housing scheme many others, including the manufacturers and suppliers of building materials, definitely supported the Workers' Home Scheme. At a time when there few public tenders for building contracts, they anticipated that the scheme would stimulate the building industry. Their support for the scheme was not misplaced, the Workers' Homes Scheme was instantly popular and in the first year of operation (1912-13) 653 houses were built and another 734 built the following year. The First World War dramatically slowed the growth rate and in 1914-15 the number of Workers' Homes built dropped to 70 and the next year it fell further to only 62 homes. Despite this decline, between 1912 and 1916, the Workers' Home Scheme provided workers with a total of 1,493 new houses at a cost of £557,915 to the government. The West Australian Workers' Homes Act of 1911, was based on similar housing legislation already in operation in New Zealand, since 1905, and South Australia, and recently introduced in New South Wales. These schemes were the forerunners of the "first home buyers" schemes currently supported by state and federal governments throughout Australia.

The Workers' Home Scheme was intended to enable workers with an annual income of less than £400 "to purchase a dwelling-house on his holding as a home for himself and his family" or purchase a dwelling and

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37 *WA Statistical Register*, (1915), Pt.X11, p.12. Of the 1,493 Worker's Homes built in this period, 847 were built on the applicants' own land and only 646 on government leaseholds. These figures suggest that land tenure was an important factor in home ownership; it was still possible to buy inexpensive suburban land in Perth, but it was the cost of building that was prohibitive.

38 *WAMBEJ*, 5 July 1913, p.19.

39 These figures for four years compare favourably with the New South Wales government housing scheme which built 453 homes and made 4,400 assisted loans from the State Savings Bank in eight years (1912-1920). J Connell, *Class Structure in Australian History*, p.205.
Figs. 5.1 & 5.2
Plans, Workers’ Homes Board, 1913. Designed by the government architect, Plan No. 2 has the bathroom located within the house, rather than "out the back". (See Fig. 5.4)
(Source: Workers’ Homes; Hints to Applicants)
land for the same purpose, with the aid of a government subsidised loan. At a time when builders were paying banks and building societies up to 8% interest, loans for Workers' Homes were initially set at 5% and were repayable on a weekly, fortnightly or monthly basis. The maximum length of loan repayments was based on the building materials; for a brick, stone, or brick and stone house the repayment period was a maximum of thirty years, but for "an ordinary wood and iron" house the maximum period was reduced to fifteen years. Again, the house builder was given a financial incentive to build in brick rather than timber. It was the government's intention that loan repayments would approximate the rent workers might otherwise pay. In 1913 the lowest repayment was 8s 3d a week for 30 years for a two bedroom house which cost £330, while the highest repayment was 12s 6d a week for a three bedroom house valued at £500. (Figs.5.1 & 5.2)

However, the government's housing scheme was affected by the rising building costs. In 1914 the Workers' Home Board was forced to increase the cost of its houses and weekly repayments. The price increase for the more expensive houses was around 15%, therefore the Board decided to drop the three most expensive house models (their new price would have put their loan repayments beyond the capacity of eligible workers). These more expensive houses were replaced by an additional seven new models, ranging in price from £430 to £490. In this respect the Workers' Home Board adopted marketing strategies later used by many current project home builders.

40 WA Statutes, 1911, 2 Geo 5, Clause 24. The salary limit of £400 appears very generous at a time when many senior public servants, including W. B. Hardwick a member of the Workers' Homes Board, were earning less. Clearly the scheme was not intended just to provide subsidised housing for the poor, but to encompass the broadest section of the community.

41 The difference in repayment periods for timber houses was based on Scaddan's belief of their inferior structural performance. He stated in parliament "in a state like Western Australia I think every wood house would deteriorate considerably in fifteen years and in some places owing to the ravages of white ants the period might be less." The many sound timber houses still standing put lie to this belief.

42 Workers' Homes: Hints to Applicants,(1913) pp.38-66. Scaddan claimed rents for a two bedroom house were around 15s to 17s 6d per week.
By way of comparison, Albert Facey, author of *A Fortunate Life*, who lived in a boarding house in Adelaide Terrace and then a rented house in East Perth in 1915, moved into a small weatherboard and iron, four room, house on a 0.8 hectare site in Shaftesbury Street, Victoria Park, in 1916. The house and land cost £450, which Facey agreed to repay at twenty shillings per week, free of interest. Facey claimed he struck a bargain, but a worker buying a brick and iron Workers' Home for £450 repaid only 11s 3d per week. Perhaps it was the two acres of land that made Facey's deal the bargain he claimed.

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In 1914 house models Nos.13, 14 & 15 were replaced by

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Table 5.1 Workers' Homes: Models and Costs
(Source: Workers' Homes Board: Hints for Applicants, 1913, 1914)

The Workers' Homes, designed by architects in the Public Works Department under the direction of the Government Architect, Hillson Beasley, are an important illustration of contemporary architectural thinking applied to low cost housing and the official perception of what constituted the minimum acceptable housing standards to accommodate the West Australian worker and his family. W. B. Hardwick, Beasley's Assistant Architect, was one of three members on the Workers' Homes Board and it is possible that he played a major role in the design of these houses. Workers were given a choice of fifteen different plans, which varied in their number of bedrooms, layout and prices. In the booklet Workers' Home Board: Hints to Applicants (1913) it was made clear that the various houses were designed "to meet the wishes of the applicants as far as possible, and to avoid stereotyped designs."44 Effective savings in building costs was evident in these designs, particularly in the lower priced houses, in which circulation space was minimised by doing away with an entry hall and providing circulation through the sitting rooms. (Plans 5.1 & 5.2) Some houses were designed so that the back stoop (verandah) could be built in at a later date to provide an additional room.

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44 Workers' Homes: Hints to Applicants (1913), p.7.
Despite these efforts at saving space the sizes of principal rooms, the
living room (4.88m x 3.66m) and best bedroom (3.66m x 3.66m),
maintained conventional sizes. These houses were designed to be
compact, but obviously if they were to be socially acceptable there were
some rooms in which space could not be compromised. While most of the
plans located the bathroom beyond the kitchen, a few plans located it
adjacent to the bedrooms, under the main body of the roof in a more
central position. Changes in social attitudes towards the bathroom were
filtering down through the housing market. Social and health attitudes
towards hygiene, sanitation theory and bathroom design were changing
and the bathroom began to be accepted within the main body of the
house, although the location of the W.C. was still to be a point of
contention for many years.45

Workers' Homes could be built on either the applicant's own land, or
government leasehold land, but because the government had set a
maximum cost for leasehold land of £60 per minimum 40'0" x 130'0" lot
the Workers' Homes were built in the less expensive and underdeveloped
suburbs on the fringes of Perth; in 1914 it was reported that a large
number of Workers' Homes were being built in West Subiaco (Jolimont),
Victoria Park, Belmont and Guildford, suburbs adjacent to industrial
employment. (Figs.5.3 & 5.4) Carlisle, Maylands and Shenton Park were
also popular suburbs for the location of these homes.46

An interesting minor event associated with the introduction of the
Workers' Home scheme was a pamphlet, entitled "Edison Cast Concrete
House", sent to the Premier, John Scaddan, from the American inventor
Thomas A. Edison, in New York. Edison had designed a prototype for a

45 This move to incorporate the bathroom fully into the house took some time in
Perth, due to the lack of a deep sewer system and social prejudice, whereas in
Melbourne the process was more advanced. In 1917 the plan for Barlow's
"servantless house" conveniently locates the bathroom between the two
bedrooms (see M. Barlow, "The Servantless House", Real Property Annual,
(1917), p.62.).

46 A comparative study of the designs of the Workers' Homes built in Perth and the
contemporary housing at the New South Wales government sponsored
Daceyville Estate could be a task for the future.
10 Kate Street, Victoria Park. A Workers’ Home (Plan No.2) built in 1914-15. The front verandah has been altered and the rear stoop built in at a later date, as was the intention of the architect.
"peoples' home", to be built of poured concrete. These houses were very American in design, consisting of cellar, ground floor and two upper floors, each with two rooms and a service room, that is kitchen or bathroom, per floor. Edison claimed he could build each house for approximately $US1,200, but the cost of six sets of in-situ formwork and other necessary equipment was estimated to be around $US175,000. Premier Scaddan was possibly very interested in Edison's concept, but its practical application in Perth might have been viewed officially as rather limited.

5.5 The Servantless House

Workers were not the only ones having to make adjustments to their housing expectations. As the cost of living and wages continued to increase it became even more financially difficult for the middle class to employ domestic servants and that made the management of a large, spacious, home a more onerous task for the mistress.

A number of architects had recognised this problem a decade earlier and had put forward suggestions as to how the problem might be resolved. At the time few clients were willing to accept the social implications of these design solutions, but gradually both clients and architects accepted that changes in the design of domestic interiors were necessary. The census of 1911 indicates that as a group domestic servants had declined within the Australian workforce. Between 1901 and 1911 domestic servants, as a percentage of the workforce, declined from 5.36% to 4.55%. In Perth and its suburbs, with a total of 23,000 houses, there were only 2,726 people engaged in domestic service and over the following decade this figure continued to fall. By 1916 large numbers of Australian men had gone to Europe to fight in the First World War, leaving many jobs. These job vacancies were by necessity filled by women. Opportunities for higher wages and better working conditions in alternative employment increased the shortage of women willing to go into domestic service. Changes in the labour market forced reluctant acceptance of changes in

47 "Homes for People", WAMBEJ, 6 April 1912, p.4.
the design of middle class houses. The more difficult it became for the middle class to attract and afford servants the more attractive became the notion of the servantless house, in which "labour saving" devices, combined with more thoughtful planning, would overcome the servant problem. In Perth the WAMBEJ, reprinted an article from the (Sydney) Daily Telegraph, which reported that "there has been an all round improvement in the interior of newly built houses, owing partly to the extension of the electric lighting system, and partly to the objections of the Australian young women to domestic service."48 It was a matter of subtly turning an economic necessity into a socially acceptable virtue. Rather than have middle-class housewives bemoan their inability to keep their homes in order, due to the prohibitive cost of domestic servants, architects and domestic scientists suggested it was socially acceptable for housewives to boast of how little outside help they required to maintain their living standards in the "servantless house."49 Increasingly, articles in building and home journals made the point that astute design, new building materials and finishes and use of "labour saving devices" were socially acceptable alternatives to the employment of servants and certainly preferable to personally doing manual work. A typical article assured readers that "electricity now plays a considerable part in ordinary domestic arrangements, with resultant economy, cleanliness and convenience."50 The range of electric products on the market was extensive; electric kettles, toasters, egg boilers, shaving pots, heaters and water heater; there was even a report of an electric hair dryer being used at the hairdressers. (Figs.5.5 & 5.6) With the aid of these household appliances the housewife was able to cook without first having to chop wood and then light the stove, to heat rooms without suffering the smell of smoke and there was no need to later clean out the fireplace. As an alternative to the employment of domestic servants electrical labour-saving appliances promised cleanliness, convenience and cost savings in the modern household. Wunderlich was one of many manufacturers to use a similar line of argument, pointing out that apart

48 WAMBEJ, 3 November 1916, p.13.
49 In keeping with the contemporary interest in matters scientific, what had previously been known as household management was now termed domestic science.
50 WAMBEJ, 25 January 1913, p.18.
Figs. 5.5 & 5.6
Electric household equipment, 1915-6. Advertisements for labour saving equipment emphasised the convenience and cleanliness of electricity.
(Source: *Real Property Annual*, 1915 and 1916)
from the merits of low cost their building materials did not "harbour dust or insect life" and therefore were labour saving.\textsuperscript{51}

This social "sleight of hand", making an economic necessity into a domestic virtue, was certainly implicit in "A Servantless House", an article written by Melbourne architect Marcus Barlow in which he boldly made the assumption that a house which could be comfortably managed without the labour of servants was now every woman's dream. Barlow was quite blunt about the issue; the lack of servants had forced the situation and specialists in domestic design had to overcome the problem. "Waste space, dark corners and passages must be avoided, and every available inch used to its best advantage. This will save unnecessary labour, make the house easy of management and last, but by no means least, save pounds in the cost", was his advice.\textsuperscript{52} Barlow designed a model of a servantless house; a compact house consisting of living and dining rooms, two bedrooms and kitchen, plus hall, bathroom, pantry, washhouse and verandah, to cost £500, which was an inexpensive sum for a house in Victoria in 1917. The plan of the house was not dissimilar to Haddon's small suburban villa plan of 1908, however the most obvious difference was the relocation of the bathroom. It was now placed between the two bedrooms, in the main body of the building. Here was an indication that attitudes to hygiene and the design and location of bathrooms had changed over the decade.\textsuperscript{53}

Interwoven with the need to achieve convenience in the house, despite the lack of domestic servants, was a popular concern for hygiene, or at least the appearance of hygiene, particularly in the kitchen and bathroom. It was argued that convenience and comfort could be achieved through careful layout, but to ensure the health and well being of the occupants the provision of adequate ventilation, light and sanitation in

\textsuperscript{51} An advertisement for Wunderlich\textit{ Art Metal Ceilings} placed in the\textit{ West Australian}, 22 December 1911, p.4.
\textsuperscript{52} M. Barlow, "The Servantless House",\textit{ Real Property Annual}, (1917), p.63.
\textsuperscript{53} Beside the relocation of the bathroom, the major difference between the two plans is the external styling. Barlow's house, which he described prophetically as being in a "style that will be characteristic of Australia for generations to come", was a modest version of a Californian bungalow.
the house was essential.\textsuperscript{54} The house was described as having three zones; living, including the dining, kitchen and offices, sleeping with the bedrooms and bathroom, and reception, including hall, drawing and smoking rooms etc. A comment was made that the "half dining-half sitting" room had become common in smaller cottages, but it had been common for years.\textsuperscript{55}

Health and convenience were heavily promoted as the prime domestic design criteria. "A well planned kitchen reduces work in the house and improves the health of the household", wrote Rodney Alsop.\textsuperscript{56} It was a frequent statement found in architectural and women's journals of the 1910s. For the purpose of convenience, Alsop recommended the kitchen be located as close to the dining room as possible and placing a pantry or servery between the two would solve the problem of keeping the sight, sound and smell of cooking at a distance from the visitor. More importantly, he also advised that a smaller room would be easier to operate, the odours of food cooking and fumes of gas required good ventilation and hygiene demanded that "no unnecessary mouldings or ledges should be permitted". Alsop's recommended choice of materials reflected the new promotion of hygienically smooth, easily cleaned, surfaces in the kitchen. These included a timber floor covered with linoleum and walls finished with glazed tiles up to a 1.5 metre high dado line, or at least a painted cement render. Finally, all utensils and kitchen ware should be covered, nothing should be left in the open. This recommendation reflected the move to build in storage space, to put things away, rather than have them on display. Clutter was difficult to keep clean and tidy.

Marcus Barlow concurred with the views expressed by Alsop. In his article on the servantless house Barlow recommended that dark, dirty and distant kitchens be replaced with roomy, bright, well ventilated kitchens, located near the dining room.\textsuperscript{57} It was these issues and

\textsuperscript{54} \textit{Art and Architecture}, Vol.8, No.8 (1911), pp.243-244.
\textsuperscript{55} Makes one wonder about the author's perceptions.
\textsuperscript{56} R. Alsop, "The Kitchen as it should be", \textit{Real Property Annual}, (1917), p.33.
architectural recommendations which were to bring about changes in the design of kitchens and also bathrooms.

5.6 Perth Housing

Prior to the gold rush St George’s Terrace and Adelaide Terrace, together with parts of eastern end of the city, were the smartest residential areas in the city, but by 1912 West Perth had supplanted these areas. The city’s overall population grew from 4,500 in 1894 to 36,000 in 1912 and the competing demands of commerce and retailing for central city land resulted in these areas coming under financial pressure for a change in land use. These streets became less amenable for residential purposes and a majority of its wealthy residents moved out to the exclusive sections of Mount Lawley, Peppermint Grove, and West Perth, leaving many large city residences to be converted into boarding houses.58

In 1911, despite the general downturn in the building industry, WAMBEJ reported "a large number of new residences are being erected in Mount Lawley, North Perth and Leederville and from appearances will be a great improvement on some that have been erected previously."59 Alma and Ethel Streets in North Perth in particular were cited as evidence of progress in the suburbs, but these houses were typical brick and iron houses built by speculators, such as J. Brebber, a land agent and Perth City Councillor, and builders T. E. Russell and A. Rennie.60 In statistical terms housing conditions in Perth were fairly much the same as the other capital cities. Figures in the 1911 census indicate the number of rooms per dwelling in Perth was 5.04 (against the national average of 5.57), the number of occupants per dwelling 4.88 (5.00) and occupants per room .95 (.89), however the marked difference in the Perth figures was the density of only .630 houses per hectare, compared to a national average of 1.075 houses.61 This low figure was the result of so

58 Handbook of Western Australia (1912), p.277. The occasional large, expensive, residence was still built in the Terrace. In 1910 Dr. Trethowan built a two storey, twenty room, mansion on the corner of Malcolm Street and St George’s Terrace.
59 WAMBEJ, 25 March 1911, p.19.
60 WAMBEJ, 6 May 1911, p.19.
61 Census of the Commonwealth of Australia (1911), p.1853
Plan, 10 and 11 Francis Street, Subiaco, 1912. Built by Walter Lay, the plans are basically the same as for 166 Townshend Road, Subiaco, designed some years earlier by architect F. W. Upton. Upton lent Lay the mortgage for 10 Francis Street.
Figs. 5.9 & 5.10
11 Francis Street, Subiaco, 1912, and 7 Francis Street, Subiaco, 1913. Together with Nos. 4, 8 & 10 Francis Street, these houses have a similar plan and elevation and were all built by Walter Lay.
little dense inner city housing and a strong preference for suburban housing.

As the housing market became tighter it became more economically competitive, with architects and builders looking for means of keeping building costs to a minimum. It was not unusual for speculative builders to replicate a successful design, but some architects appeared to also reproduce their successful designs. Title deeds indicate prominent architect F. W. Upton acted as mortgagee for Walter Lay in 1911, when Lay built a house at Lot 50 (No.10) Francis Street, Subiaco. (Fig.5.7) There might not have been anything unusual about this arrangement, except that the house Lay built was similar, apart from the quality of details, to Upton's own residence in the next street, at 166 Townshend Road, which Upton had built in 1904. Lay had previously built houses on Lots 47 and 49 in 1911, and subsequently on Lot 33 in 1912 (Fig.5.8) and Lot 35 in 1913. (Figs.5.9 & 5.10) Together with Lay's own house at 290 Bagot Road, Subiaco, all the houses were similar in plan and detail to 10 Francis Street. That Upton went mortgagee for Lay in the midst of this spate of building indicates that Lay had Upton's permission to repeatedly use the same plan.62

In early 1911 Cavanagh & Cavanagh designed a large house for Dr. H. B. Gill, on the corner of Rokeby and Hamersley Roads, Subiaco, (Fig.5.11). Later that year a similar house was built for Mrs F. Breckler on the corner of Queens Crescent and Alvan Street in Mount Lawley. (Fig.5.12) The plan, roofline, verandah and even the art nouveau gable moulding of each house was identical. The builder of the Gill house is unknown, but the builder of the Breckler house was the ubiquitous C.P. Wilson. It is possible that Wilson plagiarised the Cavanaghs' design, but it is also possible that the Cavanaghs repeated a successful

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62 Upton lent Lay £350 at £8 per centum to build 10 Francis Street. Upton's house, located on a slightly bigger lot in a wider and socially more important street, is free standing whereas the other houses built on narrower lots in a smaller street are built on the lot line, with a party wall. There are slight dimensional variations between each of the houses, but their arched front doorway, verandah frieze, brick strapping on the chimney and internal details are consistent.
Fig. 5.11
267 Rokeby Road, Subiaco, 1911. Designed by Cavanagh & Cavanagh for Dr. H. Gill.
(Source: Battye Library Photographic Collection)

Fig. 5.12
35 Queens Crescent, Mount Lawley, 1911. Built by C. P. Wilson for Fanny Breckler, the
design is the same as the Gill House in Subiaco, but it is uncertain if Cavanagh &
Cavanagh were the architects.
Fig. 5.13
Plan, 28 Vincent Street, Mount Lawley, 1912. Designed by L. B. Cumpston, eight houses were built in Vincent Street at a cost of £550 each.
design for another client in a different suburb. The Catholic Church, as an institutional investor, was probably not so concerned about repeating a design if it meant cost savings. In 1912, the Church built nine identical "villas", designed by L. B. Cumpston and costing £550 each, on Lots 36-44 (Nos.18-36) Vincent Street, North Perth (Fig.5.13). These villas, as befitted their smart location, were more substantial than the twenty houses Michael Cavanagh had designed for the Church in Highgate, in 1897.

In 1915 David Garcia, listed in the electoral rolls as a gentleman, lived at 129 Walcott Street, North Perth, in 1916 he was living at 14 Namur Street, a quiet side street overlooking Woodville Reserve, however the following year, 1917, he was listed as living at 8 Namur Street. Garcia, a property investor, bought vacant sites, commissioned a house to be built, lived it for a short time and then sold it for profit. What these three houses have in common is the same design (Figs.5.14 & 5.15). Unfortunately the architect or builder of the houses is presently unknown, but Garcia obviously believed he had a successful, if slightly unusual design.

To secure work and cut construction costs some architects and builders established contractual arrangements outside the tender process, thereby excluding other builders from contractual opportunities. The practice of architects and builders bypassing the tender process was soon well known within the building industry. This prompted the WAMBEJ editor to publicly voice the concern of many builders and contractors. With a journalistic flair for avoiding libel laws, the editor followed this complaint with a list of the numerous houses C. P. Wilson and other builders currently had "in progress" in Burt, Parker, Venn, Norfolk, Shenton (Wasley) and Farnley Streets in the Mount Lawley/North Perth area.63 By September 1911 the practice was causing considerable annoyance and jealousy amongst the excluded builders, particularly as it was known

63 WAMBEJ, 26 August 1911, p.19.
Figs. 5.14 & 5.15
129 Walcott Street, Mount Lawley, 1914. The house is the same as 14 Namur Street, North Perth, built in 1915 and 8 Namur Street, North Perth, built in 1916, and all of them built for David Garcia. The house cost £650 to build in 1916.
that one contractor had been given contracts to build thirty-five houses, at an average cost of £550, without any public tender.64

Nine months later it was reported that J. P. Wilson (sic) was building a number of residences in Mount Lawley and "as of now Bastow and Boas have twenty-two contracts in hand for erection", many of which it might be supposed were to be built by Wilson.65 The economic significance of the contractual relationship between Boas and Wilson can be more readily appreciated in light of a report in late 1912 which stated that between Subiaco and Fremantle the erection of buildings was nearly at a standstill, with Mount Lawley and North Perth the only suburbs in the metropolitan area in which residences were being erected, but "even now there is a serious falling off there."66 It it likely that between them Boas and Wilson, and a few other favoured builders, had control of a large portion of new housing in Perth. That their contractual relationships should provoke intense jealousy within the depressed building industry was not surprising.

The working relationship between Boas and a few other builders had strong architectural implications, particularly in the Mount Lawley/North Perth area. Over the previous decade many Perth architects had developed their particular niche in the housing market. J. Talbot Hobbs, a longtime architect in Perth, designed numerous large residences for members of Perth's "establishment" in Peppermint Grove, Cottesloe and Claremont; R. G. Oldham designed spacious villas for his professional clients in North Fremantle and Cottesloe; P. W. Harrison had gained a reputation for his designs of large residences primarily in West Perth and Subiaco; C. L. Oldham, with his partner A. E. Cox,

64 WAMBEJ, 16 September 1911, p.19.
65 WAMBEJ, 15 June 1912, p.19. While the architectural firm was called Bastow and Boas, Austen Bastow had handed over the running of the firm to Harold Boas in 1907, when Boas entered the partnership. In 1913 Boas took Edwin Summerhayes into partnership, but he continued to exert his influence on the output of the office after Summerhayes enlisted for war service.
66 WAMBEJ, 5 June 1912, p.19 and 14 September 1912 p.20. Tender lists indicate other architects had previously worked with builders on a regular basis over a number of years; P. W. Harrison and H. Gutherie, P. W. Harrison and A. Toms, W. E. Robertson and Gamble & Trimm, etc., but this was in a period when the competition for contracts was not so intense.
Figs. 5.16 & 5.17
2 Storthes Street, Mount Lawley, 1910 and 10 Storthes Street, Mount Lawley, 1912. Designed by H Boas, the two houses have similar plans, but the roofing materials and details differ.
established a reputation for the design of prestigious commercial buildings in the city, but they also designed a number of large two storey mansions in exclusive Queens Crescent and adjacent streets in Mount Lawley. Cameron, Powell and Wright designed a number of large, but slightly less expensive residences in the Mount Lawley/North Perth area, where one of the partners, Alexander Cameron, was a resident in Clifton (William) Street. But it was Harold Boas who, through his domination of the broadest section of middle class housing, left his widespread architectural mark on the Mount Lawley/North Perth area. (Figs.5.16 & 5.17) In his short autobiography Boas claimed he designed most of the houses of Mount Lawley. It was a bold claim, but when all the houses specifically designed by Boas and built by his close building associates C. P. Wilson, R. Gamble, C. Mansfield, J. Skinner and A. Toms, are taken into account, together with the speculative houses these builders independently built in neighbouring, less expensive, streets of Mount Lawley and North Perth, the claim is not so exaggerated. In Sydney, the garden suburb of Haberfield, which developed in the early 1900s almost in parallel with Mount Lawley, achieved a high degree of unity in its housing through the imposition of building covenants on land buyers. Mount Lawley achieved a similar unity of architectural character and much of the credit for this must be attributed primarily to the work of Boas and his building associates. (Figs.5.18 & 5.19)

Given the large number of houses which he designed, it is somewhat dismaying to discover that Boas wrote little about his architecture. In his biography, which he titled Bricks and Mortar, Boas writes nothing of the ideas and influences behind his architectural work, nor is there mention of any papers he may have presented or articles he may have written on domestic architecture at the time he was designing so many

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67 In 1908 Oldham and Cox designed "Killowen", a large two storey mansion overlooking the Swan River on Ellesmere Road, for R.T. Robinson, the developer of the Mount Lawley Estates. This was followed by houses at 24 Queens Crescent (c.1908) for Oldham, Almonbury Road (1910), 32 Queens Crescent (1916) for S. B. Alexander and 26 Queens Crescent (c.1917) for Cox.

68 In 1909 Cameron was elected a North Perth municipal councillor, thereby enabling him to extend his architectural influence in the area beyond the firm's designs.

69 H. Boas, Bricks and Mortar (1971, unpublished), Battye Library.
27 Alvan Street, Mount Lawley, 1917. Built by C. P. Wilson for himself in 1917, the house is adjacent to the Breckler house (Fig.5.11).

48 Venn Street, North Perth, 1915. Built at a cost of £550, the small cottage is similar to Haddon's design (Fig.4.7). 28 Vincent Street, Mount Lawley (Fig.5.15), also cost £550, but that was in 1912. Rising building costs resulted in smaller houses.
houses in Perth. Given his business acumen, it might be assumed that Boas's domestic architecture evolved in its planning, choice of materials, construction techniques, details and finishes in response to the prevailing demands of the housing market. It is fair to suggest his domestic architecture is of primary interest for its volume of design, rather than its innovation, but its real legacy is the predominant "Federation" architectural character of the Mount Lawley No.1 and No.2 Estates (the area north of Walcott Street and stretching west from the Swan river to Alexander Drive).

Although Mount Lawley and North Perth, in late 1913, were still the principal suburbs in which the majority of residential buildings were in the course of construction, other suburbs including Nedlands Park, Osborne Park and South Perth experienced limited residential growth, particularly Nedlands Park, where Boas again left his architectural mark. The land in these more distant suburbs was cheaper, but the cost of carting building materials was higher and therefore the houses tended to be relatively expensive. In April 1914 400 residences were in progress in the metropolitan area, a sign that the building industry was once again flourishing, but it was also reported that the majority of these houses "did not pass through the architects' offices", a number of the houses were described as "run 'em ups" and it was claimed that many were built without supervision. This situation was indicative of a renegade section of the community deliberately circumventing the building industry and council building surveyors in a bid to combat rising housing costs and satisfy the popular demand for housing, even if it meant producing sub-standard houses. Meanwhile, Mount Lawley and North Perth continued to be distinguished by having larger houses under

70 This is in sharp contrast to Michael Cavanagh, P. W. Harrison, G. Temple Poole and others, who presented papers to the WAIA and wrote for the WAMBEJ. In his later years, Boas chose to emphasise his contribution to the development of town planning in Perth, rather than his domestic architecture.

71 Boas designed the Nedlands Park Hotel in 1907.

72 WAMBEJ, 15 March 1912, p.2 and 28 June 1913, p.19. This prompted the editor to suggest using the tram system for cartage.

73 WAMBEJ, 4 April 1914, p.20. "Run 'em ups" was a term applied in Melbourne to "jerry-built" houses. The situation in Perth was not unique; in Melbourne, architects complained that "of the four or five thousand houses built in the suburbs each year not more than 25% are erected to the design of a qualified architect". Real Property Annual, 1914, p.71.
construction, whereas Workers' Homes accounted for many of the houses built in Jolimont, Cottesloe, Claremont and Fremantle.74

The First World War began in Europe in August 1914 and initially its effects on building in Western Australia was minimal. However, by 1916 with so many Australian men overseas fighting, the state's economy was severely unsettled, exports disrupted and import of materials from Europe curtailed. There was little demand for commercial buildings and the building industry was kept afloat largely by residential construction. Even here the major contributor to residential building was the speculative builder, constructing houses in areas like Hanover (which due to anti-German feelings was renamed Alma), Mabel, Waugh and Woodville Streets, North Perth. The majority of these speculative houses, valued at around £400 and built of traditional brick and iron, showed little evidence of any changes to conventional planning. They followed the conventional plan and form, incorporating the double front, with a projecting gabled front room, and the infill front verandah. They were typical speculative houses and innovation had little place in their design, but because of the shortage of new housing, created by conditions of war, these houses were promptly erected and sold.75

It was during the 1910-14 period that the Californian Bungalow made its first tentative appearance in Perth. A prefabricated Californian Bungalow had been constructed at a housing exhibition in Sydney in 1911 and had attracted much attention. It is evident from architectural journals that Australian architects were familiar with F. L. Wright's "prairie houses" and the Pasadena houses of Greene and Greene. The Californian bungalow was promoted heavily on the basis of its suitability to the Australian climate and lifestyle, particularly by the Paraffine Paint Company, suppliers of Pabco Malthoid roofing, which saw the bungalow style as a means to increase sales of its building materials. Numerous journals featuring plans and elevations for Californian bungalows were published throughout Australia and the style rapidly

74 See Ian Molyneux, Survey of the National Estate in Subiaco for examples in Jolimont and Shenton Park.
75 WAMBEJ, 2 June 1916, p.13.
achieved a level of widespread popularity. R. A. Prevost's pattern book, *Australian Bungalow and Cottage Home Designs* (new and enlarged edition, 1914) was a very popular example of how the new style was promoted as being designed to be "subservient to local climatic conditions" and "intended to foster a style of architecture in keeping with the hygienic open-air life that obtains in Australia". Like so many other promotions for Bungalow housing Prevost's book also included advertisements for the Paraffine Paint Company for Malthoid roofing. A number of the larger, architect designed, houses in Nedlands and Mount Lawley, including 24 Queen's Crescent, Mount Lawley (c.1917), the home of architect A. E. Cox, incorporated many of the stylistic details of the bungalow style. Despite the tentative appearance of the Californian Bungalow in some Perth suburbs, the picturesque red brick and terra-cotta tiles, or corrugated iron, Federation house still dominated the middle range of the housing market and it was not until after the First World War that the Bungalow style was more widely established in Perth.

Of course not all sections of society in Perth were affected by the economic downturn and several large houses were built in the years leading up to the war. The Hassell house in West Perth may have been the largest residence in Perth in 1905, but it was soon surpassed by houses such as R. T. Robinson's mansion overlooking the river at Mount Lawley, designed by C. L. Oldham in 1908, Dr. Trethowen's residence on the corner of St. Georges Terrace and Malcolm Street, Perth, designed by T. Anthoness in 1910 and "Lexbourne", a large mansion in Colin Street, West Perth, which the Cavanaghs designed in 1911 for bridge builder and brick manufacturer Robert Law. Dr. Trethowen's house, "a 2 storey residence, with twenty rooms, Marseilles tiles, sewered and with lavatories adjacent to the bedrooms", cost £6000, but apart from its progressive inclusion of sewered en-suite lavatories, the most interesting feature about the house was that it was built in the central city at a time

76 The WA State (Alexander) Library holds a copy of R. A. Prevost's "new and enlarged edition" (1914) of *Australian Bungalow and Cottage Home Designs*, which might indicate that Perth architects had ready information on the bungalow style.
when most of the city's wealthy citizens had moved up the hill to West Perth, or further out to more reclusive suburbs.77

S. B. Alexander's house at 32 Queen's Crescent, Mount Lawley, designed by C. L. Oldham in 1916, was the latest in a series of large mansions built within the scope of the study period. (Fig.5.20) It might seem curious that such a large house was built during the war, but, unlike the Second World War period, the government placed no restrictions on the use of building materials or labour. Alexander, who had made his fortune from the building industry, was expressing his confidence in the status of Mount Lawley when he chose to build his own house there. The European war caused a labour shortage and disruption to the supply of building materials and therefore both were more expensive, but Alexander had access to his own timber works and consequently his house featured many rooms finely detailed with native timbers. The entry hall featured oak wall panels and steps of polished cedar, while the kitchen was finished in Queensland maple. In all there were twelve rooms including drawing, billiard and dining rooms, which might indicate a move towards a more economic use of space. The principal external materials were Donnybrook stone, red brick and Marseilles tiles. It was an impressive looking house, big and solid, with a number of decorative elements, but overall it appears remarkably restrained, stiff and even institutional; it lacks the informal mixture of complexity and grand comfort evident in many of its neighbours. (Fig.5.21) Despite the obvious difference in style, the house was warmly described as being a credit to the architects, Oldham and Cox, both of whom were Alexander's neighbours in the fashionable garden suburb.78

One effect of the war shortages and costs was to encourage a number of home owners to undertake alterations and build additions to their houses.

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77 WAMBEJ, 3 December 1910, p.19. This was a very large sum to expend on a residence in Perth, but was relatively small in comparison with the amounts spent on large houses in Sydney or Melbourne where the cost of building was markedly higher and the wealthy appeared willing to spend more money on their houses.

78 WAMBEJ, 7 July 1916, p.14. As the editor was probably a friend of both Alexander and the architects this praise might have been generous.
Fig. 5.20
32 Queen's Crescent, Mount Lawley, 1916. Designed by Oldham & Cox for S. B. Alexander, the large residence appears stiff and box-like.

Fig. 5.21
49 Lawley Crescent, Mount Lawley, 1914. Thought to have been designed by P. W. Harrison, the sprawling informally grand house, wrapped by a verandah, sits amidst an extensive garden.
rather than build anew. One of these was A. H. Nicholls, District Architect and Inspector of Works (Perth) in the Public Works Department, who altered his house in Grosvenor Road North Perth house in 1915.79 Nicholls had originally designed his house in 1906 and he drew his 1915 additions and alterations over his original drawings. (Fig.5.22) The old dining room was extended with the addition of a bay window, the front verandah was returned down the side of the house, but truncated with a decorative gabled corner and an extra bedroom, sleep-out accommodation and wash room added across the back of the house. (Fig.5.23) Apart from indicating that the Nicholls family required more accommodation the drawings illustrate how Nicholls cleverly restyled a relatively modest house with its standard plan and typical external details into a more complex and picturesque individual residence, more befitting his improved professional standing.80 There might be a number of reasons as to why Nicholls built these extensions. He had bought two adjacent lots in 1905 and had only built on one lot. Perhaps, he originally bought the other lot as an investment, or maybe he had long term plans to extend his small house.81

The compact, almost spartan, Workers' Homes built in Victoria Park, West Subiaco (Jolimont) and Midland Junction stood in marked contrast to both the spacious mansions built in West Perth and Mount Lawley and the comfortable "villa residences" and speculative houses built in North Perth. While the government designed Workers' Homes were obviously popular, they were not necessarily the community's image of an ideal home. In 1916 the local community in Mount Hawthorn decided to build its' ideal home as a tribute to the sacrifices of the Anzac soldiers; "Mount Hawthorn's Monument to Australian Valour" was the description given in the Anzac Cottage Souvenir.

79 Nicholls, had emigrated from Camberwell (Vic) to Perth in 1894, joining the PWD as an architectural draftsman. In 1905 his salary was £270 per annum, but despite having been promoted his salary, in 1915, had increased to just £312.

80 Nicholls' original house was not quite standard; despite its modest size the bathroom was located adjacent to the second bedroom, within the body of the house. Nicholls, trained in Melbourne, was obviously conscious of contemporary trends in domestic hygiene and planning.

81 His neighbour, R. A. Gamble, a well known builder and North Perth Councillor, bought two adjoining lots at the same time, but later on Gamble built a house on his second lot, rather than using it for a landscaped garden.
Plan, 139 Grosvenor Road, North Perth, 1905 and 1915. In 1915 A. H. Nicholl altered his original design, expanding the modest layout into a more complex arrangement of rooms.
Fig. 5.23
Elevations, 139 Grosvenor Road, North Perth, 1905 and 1915. With the addition of a returned verandah, gablet and bay window, Nicholl replaced the simplicity of the original house with a more picturesque effect.
Mount Hawthorn, adjacent to North Perth, was subdivided in the early 1900s, but due to a lack of easy access to public transport, despite the association with a prestigious Melbourne garden suburb and an indication of healthy high ground implicit in its name, the suburb was still heavily wooded and largely undeveloped in 1916. It was the original intention of the Mount Hawthorn Progress Association to provide an incapacitated Anzac soldier with a small timber house, but while planning the project the Association decided to provide "a superior home of brick". Peet & Co., a major realtor, donated the Association a small lot of 490 square metres in Kalgoorlie Street, local manufacturers and merchants provided free building materials and the house was built with volunteer labour over two weeks of intense public activity.

'Anzac Cottage' is an interesting hybrid; it is not a typical worker's cottage, nor is it a typical example of an architect designed house, rather it sits between these two models. It is an architect's version of what a worker's house might be, if, unlike the Workers' Homes, it was not subject to rigorous economic constraints. At an estimated cost of £600 it was considerably more expensive than either a Workers' Home or a comparable builder's speculative house, which cost, at the time, between £450 and £500. The plan of Anzac Cottage is quite basic, a four room rectangle bisected by a central hallway. The rooms were arranged in the conventional configuration; drawing room, with its entrance nearest to the front door, and the best bedroom in front, second bedroom and kitchen behind, with bathroom and sleep-out/verandah located under the lean-to section across the back of the house. (Fig.5.24) It is the combination of materials and details which indicate this is no ordinary house. Two tall chimneys, twin gable vents symmetrically arranged over the front windows and a terra-cotta tiled roof, crowned with delicate terra-cotta ridge cresting and finials, produced a prominent roof line, which stood in sharp relief to the tall gum trees in the surrounding bush, in the manner prescribed by Robert Haddon in *Australian Architecture*. Tuckpointed brickwork, timber brackets on the verandah posts, decorative stucco moulding under the casement bay windows, coloured leadlight in the front door and internal "grained" timber work which
Plan and facade, "Anzac Cottage", 38 Kalgoorlie Street, Mount Hawthorn, 1916. The house was described as "Mount Hawthorn's monument to Australian valor."
conveyed an appropriate sense of *artistic* style to the house. Thus, despite the symmetry of the design, what might have been an ordinary house was transformed by its details and finishes into a picturesque idealization of a West Australian home, in 1916. (Fig. 5.25) In plan 'Anzac Cottage' was not so different from the workers' cottages found in Perth in 1890, but its suburban setting, range of building materials, finishes, architectural details and water, gas and electric services mark the differences. Perth housing was now much more sophisticated, reflecting the growth of the building industry to a level comparable with that of any other Australian capital city.

5.7 Interior Design

That *WAMBEJ* could confidently run an article on "Colour", written by London architect Harry Ricardo (sic), over four consecutive weeks suggests there was strong local interest in the use of colour in this period. In these articles Ricardo focussed on the use of coloured materials, particularly on the exterior of buildings, rather than the use of colour in applied interior decoration. Ricardo's discourse was very much a justification of his own work in which he frequently used faience tiles and other coloured finishes. The use of coloured wall materials was obviously of some local interest, because several houses and commercial buildings, as well as the Beaufort Street wing of the Art Gallery of Western Australia, featured decorative moulded terra-cotta panels. However the use of colour inside the house was shifting away from the vibrant mix of a number of intense colours to a more simple palate. The emphasis on hygiene, or at least the appearance of hygiene, promoted the use of lighter colours in preference to darker colours, which might possibly hide the dirt. Timber finishes, both natural and painted, were fashionable; S. B. Alexander had timber wall panels in his Mount Lawley house, while the Anzac Cottage had wood grained woodwork throughout its interiors.

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82 A number of houses of similar design were built later, eg. 62, 64, 66 & 78 Monmouth Street, North Perth, but they all have roofs of corrugated iron, rather than the more expensive terra-cotta tiles.

83 *WAMBEJ*, 12 March 1910, 19 March 1910, 26 March 1910 & 3 April 1910. The author was Halsey Ricardo.
By 1910 Boans, Foy and Gibson, and William Sandover boasted they could supply a range of household fixtures, fittings and furnishings from all over the world. Foy and Gibson bought goods in international markets for their Melbourne and Perth stores and both Boans and Sandovers had buying offices in London. All the Perth emporia offered to send their comprehensive, illustrated, catalogues to interested readers and therefore few goods were actually illustrated in the local newspapers. Archival material in the Boans Collection has yet to be catalogued and is therefore unavailable for research, but from a study of fixtures and fittings found in Perth houses of the period it can be safely concluded that the range and quality of goods available in Perth's emporia was similar to that available in other major Australian cities. (Figs. 5.26 & 5.27) These catalogues indicate that popular taste in furniture was still in favour of "polished pine, or stained walnut or cedar colours" and fixtures and furnishings were still generally elaborate in detail.84

The Arts and Crafts movement tried to promote a more forthright approach to the use and finish of materials, but its direct appeal was to a limited audience, which shared the philosophy and aesthetics of the movement. However, the influence of both the Arts and Crafts and Art Nouveau styles was widespread through their incorporation in details, fixtures, fittings, furnishings and decorative items. The Wunderlich Company's use of Art Nouveau patterns in its pressed metal sheets has been referred to already, but Art Nouveau linework featured heavily in leadlights, plaster air vents, hearth tiles, door handles, finger plates and numerous other household fixtures. The Arts and Crafts influence was observed more in timber fretwork, wallpapers and friezes, fabric patterns, tiles and stencil patterns. At first glance this mixture of stylistic details might seem incongruous, but Art Nouveau and the Arts and Crafts were not generally regarded as separate styles, rather their combined use was viewed as essential in the creation of the "artistic home interior", as promoted in advertisements for fixtures and fittings. This mixture of styles became a distinguishing feature of the Federation house.

Figs. 5.26 & 5.27
Lasseter's catalogue, 1911. Illustrations of dining room and bedroom furniture
(Source: Australia in the Good old Days)
As the cost of building increased there was a strong incentive to cut costs, and decorative details and finishes were an early casualty. This was matched by recommendations to build in furniture. Increasingly architects argued that simple interiors were preferable to the traditional clutter of furnishings; cost, labour savings and hygiene were the basis of this argument and it was a difficult one to counter. As a result of these arguments interiors gradually become more simple, but in the late 1910s, unlike in the early 1890s, it was more through a matter of choice, rather than lack of opportunity.

5.8 Summary

By the 1910s the patterns of land subdivision, established in the period of the gold-rush, still dominated suburban growth in Perth, state and local building regulations, progressively introduced over the previous two decades, ensured the construction of sound and hygienic houses and a well established building industry was capable of providing a relatively sophisticated product. But with an uneven state economy, the rising cost of building materials, industrial unrest in the building trades and declining wages for workers, the production of affordable houses in Perth faltered. Home ownership was moving beyond the financial reach of many workers; the "Australian dream" was fading. The election of Scaddan's Labor government in late 1911 was quickly followed by a political attempt to revive that dream, with the introduction of the Workers' Home Scheme. Apart from providing low cost houses for the workers, the scheme also directly challenged the standards of the houses built by investors and speculative builders. Through the actions of the government, workers now had a wider choice of affordable housing and as a consequence the builders of speculative houses might have been forced to respond more positively to this more competitive housing market had not the First World War occurred, thereby causing a housing shortage.

Despite the difficulties faced by home owners in Perth, due to the rising costs of building, at the time of the 1911 census the level of home ownership in Western Australia was 60%, just slightly behind the leader Queensland with 62%, but far in advance of Victoria and New South
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Table 5.2 The State of Housing in Australia (1911)  
(Source: Real Property Annual, 1914)
Wales, where it was only 52% and 46% respectively. (Table 5.2) Naturally these figures were to change over the decade, as economic conditions changed and the war disrupted housing production, but the introduction of the Labor government’s Workers’ Homes Scheme of 1912 was aimed squarely at maintaining a high level of home ownership in the state, even if it had to be subsidised by the government. The government also tried to control the rising price of building materials by establishing government owned brick and timber industries.

The war disrupted the housing industry in Perth. Foreign building materials, particularly corrugated iron and terra-cotta tiles, were in short supply, and the enlistment of many young men disrupted the local production of building materials and created a shortage of building labourers and tradesmen, but it was also to prompt the local manufacture of terra-cotta tiles, which was to have important consequences in the post-war years. A number of speculative houses were built in the war years, but not enough to satisfy the local demand, and as a consequence there was to be a housing boom in the post war years. But of the houses that were built in the war years one of the more interesting was Anzac Cottage, representing as it did a local community’s ideal suburban home fit for an Australian war hero.

In twenty five years Perth had changed dramatically from a small country town to a large modern city and as part of that change housing in Perth had advanced considerably.
The war in Europe effected the construction of housing in Perth in a varied manner. Imported building materials were in short supply and at an increased price. The labour force was depleted by workers who joined the armed services, but an increased use of piece workers and their increased productivity resulted in a drop in the cost of housing.\(^1\) With drought in the rural areas and disruptions to industry caused by the war effort the building industry confirmed its role as a major source of employment in Perth. Despite the fall in housing costs there was still a shortfall in the number of houses under construction. For economic reasons the government was forced to curtail its Workers' Home scheme and it was left to private contractors meet market demand for low cost housing. A restricted production of housing in Perth, resulted in a build-up of market demand. As a consequence of this pent up demand there was to be another boom in house building in the years following the armistice in late 1918.\(^2\) Unlike the boom of the 1890s the housing boom of the early 1920s did not dramatically change housing patterns, rather it amplified the housing ideals and design issues which had been developed over the previous two decades. Ideals of "home", the family and property ownership, issues of health, economy of construction and preference for particular building materials. This response was not fully evident during the war years, but in the building boom which occurred in the immediate post-war years the speculative houses built by G. Harring, A. Rennie, T. E. Russell and H. Seiler in York and Monmouth Streets, North Perth indicate changes in the use of materials and form. (Figs.6.1 & 6.2) Gradually the Californian Bungalow style became fashionable, but this was more a matter of changing the decorative clothing of the house rather than changing the basic form of the house.

To illustrate this point it is useful to compare two published architectural views on the state of housing at the end of the decade; housing articles

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1. WAMBEJ, 3 July 1915.
2. By 1917 the shortage of new houses had exacerbated the problem of high rents and about 33% of the wages of the manual and professional classes was spent on the payment of rent; hence the post-war building boom.
Fig. 6.1
39, 41 & 43 York Street, North Perth. Built by speculative builders G. Haring and H. Seiler in 1919, as part of the post WW1 housing boom.

Fig. 6.2
62 & 64 Monmouth Street, North Perth. Built by speculative builders in 1915, the houses are of a similar design as "Anzac Cottage", but with corrugated iron roofs.
written by Robert Haddon in Melbourne and A. R. L. Wright in Perth, which indicate from where the development of housing had come and to where it might be heading. Haddon and Wright had similar professional backgrounds; both were born and gained their architectural training in the Britain, they emigrated to the eastern states of Australia in the late 1880s and during the gold-boom years of the mid-1890s were employed as architects in the Public Works Department in Perth. Haddon returned to Melbourne in 1899, where he became a prominent architect, educator and architectural writer, while Wright established his architectural practice in Perth and later became president of the West Australian Institute of Architects. With such strong similarities in careers, it is not surprising that their views on housing, although expressed on opposite sides of the nation, should be so similar, but these similarities might also be due to the sharing amongst architects and others of a common viewpoint on the ideals and issues associated with housing at the time.

In 1917 Haddon wrote an article "Architectural Types: Tendencies in Australian Building" in which he stated "our efforts at architectural expression are saner than those of the past, more in tune with progressive hygienic thought, and consequentially more fitted to the requirements of the people of today than were the houses of a quarter of a century ago." During this period there had been a notable shift from the old country (English) idea of the terraced house to the garden city type. Haddon argued that the problem with the terrace house was it was built up to the street, it lacked light and air and was therefore "lacking in those housing qualities that best conduce to the upbringing of a sturdy race of young men and women." The connection Haddon made between housing standards and the health of the population had steadily gained popularity amongst sanitation scientists, health officers, architects and politicians as a result of several epidemics of typhoid fever and bubonic plague in Australian cities in the 1900s, but it was also fuelled by a strong desire to prevent the establishment of the undesirable living conditions evident in the industrial cities of England. As a consequence detached housing in the garden suburbs of Malvern and Balwyn were favourably measured against the crowded terraces of Carlton and West Melbourne. Another factor in the development of new garden suburbs of

3 RJ Haddon, "Architectural Types", Real Property Annual, 1917, p.49.
single storey detached houses, which Haddon regarded as being a singularly Australian phenomenon, was because "the average Australian woman has a rooted objection to stairs." Haddon believed the break-away from hide-bound traditions of planning and composition, the use of colour and the "independence" of the new style was right, because it offered infinite possibilities of design, but only "in the hands of those (architects) big enough and original enough and practical enough to deal with them", a claim which might well be read as Haddon's indirect endorsement of his own architecture. But, Haddon was also concerned that domestic architecture should appear to be sufficiently dignified and stable, displaying Ruskinian "honest truth" rather than mere fashion.

Two years later Wright, in his article "Houses in Western Australia", was to echo many of the points made by Haddon. He prefaced his general comments with a similar declaration that the "health of the community is so largely dependent upon satisfactory housing conditions" and from that standpoint he developed the case that it was imperative that "houses must be well situated, pleasant to look upon, healthy to live in and carefully studied in their arrangements, whilst at the same time being economically and substantially built."

Wright repeated the familiar claim that the typical housing model in Australia had arrived from England, whereas, he suggested, our climate and way of living called for an Italian house, with "its piazza, plain elevation and heavily projecting eaves". It was an oft-repeated argument, echoing earlier architectural writers, including Cavanagh, Hamilton, Joseland and Sulman, and one that would be echoed a few years later by Leslie Wilkinson in Sydney. Wright's approval of the Mediterranean style was matched by his dislike of the new fashion for the Californian bungalow, which he claimed was originally designed for a large American lot, but was now being squeezed onto a lot frontage of 12.2 metres, or less.

And what was Wright's vision of a suitable house for the 1920s? He predicted that with new garden city ideas applied in the suburban estates there would be "less crowding, larger gardens, more open spaces and houses grouped with regard to architectural effect". But it would require lots having a minimum frontage of one chain (20 metres), rather than the typical 12.2 or 15.24 metres, which he believed was too narrow. Externally the house would exhibit "dignified simplicity", therefore there would be few architectural features.\(^5\) Like many other architects, Wright now found tuckpointing painted on the front facade of houses to be "hideous" and its associated poor brickwork around the corner distressing. Despite his preference for the Mediterranean style, he stated that the external materials of red brick, cement rough-cast and tiles "are not easily improved upon", a view corresponding to an earlier statement by Joseland, and Haddon before him, Wright also quoted Ruskin in support of the prominence of the roof in the design of the house. Despite his recommendation that the house should be built "of materials readily obtainable in the neighbourhood" Wright described corrugated iron, "so much prized by Australians", as being "hateful to look at" and was pleased to note that as it was no longer cheap it was losing its popularity.

Wright stated the house was being internally reshaped by economic constraints, the lack of domestic servants and the progressive introduction of the deep sewerage system. As a result an economy of labour and simplicity of design should govern the general rooms, ceiling roses were unnecessary and cornices could be dispensed with by taking the ceiling line down to the picture rail. It was a matter of economic necessity simplifying interior details. Similarly, if the lack of servants was to force the mistress of the house into the kitchen then it had to be conveniently situated, well lighted and ventilated, and cheerful in outlook. It was obvious mistresses could not work under the same conditions as their servants. As for the bathroom, Wright believed "if there is a sewerage system there is no good reason against having it in

\(^5\) Curiously, Haddon had also used the adjective "dignified" to described the desired character of contemporary housing. This might reflect a backlash against a popular use of excessive decorative details.
the house"; the custom of locating the bathroom on the back verandah was no longer hygienically necessary.

Wright's mention of the pleasant effect to be gained from the arrangement of trees, shrubs and walks surrounding the house reflects the importance planting was accorded in the garden suburb, although he did suggest there were alternatives to the popular macrocarpa, pittosporum, box and plumbago.

The personal and professional histories of Haddon and Wright parallel this housing study; they had been exposed to the same influences which had helped shape domestic architecture in Perth and elsewhere in Australia. Therefore their concerns for health and hygiene, economic construction, the use of dignified, simple architectural form, honest use of materials and the benefits of living in garden suburbs summarise the major architectural ideals and issues confronting all those involved in the housing industry in Perth at the end of the period covered in this study.

By 1918 the West Australian economy had caught up with the rest of the Australian states, the building industry in Perth was comparable with those in other cities and the architectural profession was as well established and knowledgeable as elsewhere. Therefore it is not surprising to find that the issues faced by architects and builders in Perth and their domestic architecture should appear to be very similar to that elsewhere in Australia, but as has been constantly stressed throughout this study it would be local particularities related to the previous growth pattern of the city and suburbs, abundance of residential land, lifestyle associated with climate, topography, building materials, etc., which would give Perth's domestic architecture its special characteristics.
7. CONCLUSION

The development of housing in a city is a complex subject; it evolves over the years in response to a series of social, economic, geographic, political and aesthetic issues related to specific time and place. Other cities in Australia faced issues similar to those of Perth in the development of their housing, but their differing times, circumstances and responses produced different results; each one specific to its own history. Over the twenty-five years (1890-1915) covered in this study the changes in housing were dramatic on occasion, but more often they were gradual, incremental, and sometimes almost imperceptible. It is relatively easy to recognise the differences in the houses at the beginning and end of the study, but while the causes of change are usually quite evident, it is often less easy to pin-point in time the specific evidence of the changes. (Figs.7.1 & 7.2) This study has focussed on a number of events and issues which prompted changes so as to provide a knowledge and understanding of the causes and effects in the evolution of housing in Perth.

Consistently running through this study of the development of housing in Perth (1890-1915) have been a number of different perspectives on housing; the house as provision of shelter, the embodiment of the social ideal of home, a means of financial gain, a source of industry and employment, a political objective, an expression of aesthetic values and the foundation of a healthy society. There have been a number of key groups exerting their influence on these developments; home owners, builders, architects, manufacturers of building products, lenders of finance, health officials, law makers and government officials. Often they were one and the same persons wearing different hats, implicitly bringing the same underlying attitudes and values to the issue. On other occasions, as economic, social and political circumstances in Perth altered over the twenty five years, the membership of the decision making groups changed and from these changes emerged different responses to the issue of housing. Similarly, the role of the various participants altered in significance and therefore their responses had a greater or lesser importance depending on the current issue.
Fig. 7.1
185 Stirling Street, Perth, c.1895.

Fig. 7.2
48 Venn Street, North Perth, 1915.
Despite the interwoven nature of housing issues and the many decision makers described in this study, a number of key elements are obvious; the strong and consistent pursuit of home ownership as a broadly supported objective, the role of government in facilitating the growth of housing, the influence of architects and builders trained in the eastern states in determining the design of the house, and the development of a building industry capable of providing housing at a price which the broadest section of the public could afford.

Home Ownership

The overriding theme throughout this study, whether explicit or implicit, has been the goal of the ownership of property. In 1829 the private promoters of the Swan River Colony used property ownership as the lure to attract the first settlers, in the 1890s the fledgling state government of Western Australia used it as a means to establish a sedentary rural population and later, in the early 1900s, a suburban population and until finally, in 1912, Scaddan's Labour Government enshrined home ownership as a political objective of government with the introduction of the Workers' Homes scheme. Since that time home ownership has continued to be on the political agenda of all governments in Western Australia, as is evident in the current "Key Start" and other "first home buyer" schemes.1

The ownership of property, or in its basic form the ownership of a house, was encouraged and supported in Perth by a number of different groups, albeit for slightly differing reasons. Respected English middle-class theorists of the late nineteenth century, writers such as Carlyle and Ruskin, promoted home ownership as a symbol of an individual's social responsibility, propriety and self advancement. For them a house was regarded as more than mere shelter, it was the home, a private family institution residing within the four walls of the house and portrayed as the source and bastion of all that was good in an industrial world that

1 "Key Start" and "first home buyer" schemes involve both federal and state government agencies granting financial assistance or providing low priced land and home packages, so that lowly paid workers can afford to acquire their own homes.
was increasingly perceived as being bad. In Perth, throughout the latter part of the nineteenth century and well into the twentieth century, this perception of house as home was so heavily promoted by leaders of church, state and commerce that it became ingrained in common thought to a point where people automatically refer to home ownership, and all that it entails with the notion of home, rather than house ownership. Within our society it is now axiomatic that one buys a house in order to make a home.

Immigrants in Perth, while imbued with lofty domestic ideals of home, also held a parallel, although definitely more pragmatic view, of property ownership. In other cities and societies the ownership of property might well be beyond their reach, but in Perth it was seen to be an achievable means to financial security, social mobility and political rights. Therefore the house was regarded as both a symbol of personal financial success and an expression of shared social values. Because social success was also measured by identification with a group or community, choosing a suburban residential location in which to buy property was as much a statement of social belonging as it was a statement of financial well being and this factor was to play a part in the development of the different social characteristics of the suburbs of Perth, overlaid on their physical characteristics.

In the late nineteenth century the financial leaders in Perth, themselves immigrants who had come to Perth to better their position in society and were now the local social and political leaders, made it quite clear by the establishment of building societies that they supported the domestic ideals of these British theorists. But they also had a slightly less than philanthropic purpose in establishing these building societies. They certainly encouraged property ownership as a means of instilling the virtues of frugality, propriety and responsibility in the population, but they also viewed it as a means of maintaining their vision of social order. Families committed to repaying a loan on property were naturally bound to uphold and abide by the laws of property.
Home as Social and Functional Setting

British writers on social etiquette and household management produced volumes of information on how to behave and how to organise life in the home. This material was widely read in the Australian colonies, but the reality of life in Perth was quite different from that of London, or even Melbourne. Trying to maintain British domestic formality in Perth, with its hot climate and the lack of domestic servants, was as difficult as wearing a top hat and morning suit was uncomfortable and gradually both were to give way to a local informality, which was reflected in the design of the house. The number of rooms having different functions was kept to a minimum, front verandahs were used as outdoor rooms and back verandahs were used as sleep-outs.

There had always been a shortage of domestic servants in Perth and therefore only a few large houses, dependant on the services of servants were built in Perth. For a brief period in the late 1890s, at the height of the gold-rush, the middle-class in Perth could afford servants to service their large houses, but it was a temporary situation and gradually the high cost of employing servants resulted in the middle-class being resigned to life in a servantless house. This required the mistress of the house to do much of the household work, perhaps assisted by some outside help, "the daily". As a consequence houses were designed to be less labour intensive. The design of the kitchen and bathroom, particularly dirty areas, was reconsidered and labour saving devices introduced to make household work less onerous.

Skilled Builders, Trained Architects and Available Materials

The discovery of significant goldfields in Western Australia happened to coincide with the collapse of the building industry in Melbourne, therefore the opportunity to gain work in the goldfield towns, Perth and Fremantle was a great incentive for literally hundreds of unemployed architects, building tradesmen and manufacturers of building materials to migrate to Western Australia. The impact of their presence in a city which up until 1890 had at best a rudimentary building industry was
profound, particularly when their skills and products were in demand from an increasingly sophisticated public. But the influence of these people went beyond just the housing they designed and built; many architects, builders and manufacturers took an active role in local and state politics and through their elected positions they framed the building laws and regulations which shaped the suburbs and the housing.

The immigrant architects brought to Perth their contemporary debates and ideas surrounding the development of an Australian architecture, one more closely related to the local climate, lifestyle and available materials. In the early 1900s, through lectures and papers presented to the West Australian Institute of Architects and other forums a number of architects tried to redirect architectural thinking away from a slavish attempt to mimic their British contemporaries. Later, when health, a lack of domestic servants and the rising cost of building became important public issues the architects debated appropriate means to reconcile their clients' needs with their domestic architecture. Like architects in all periods they were susceptible to changing aesthetic values and the attraction of utilising new materials and form, which the suppliers of building materials were eager to promote. This process is evident in the transition of Perth's domestic architecture from the Italianate style, through the Artistic phase, an Australian mixture of Arts and Crafts and Art Nouveau, and thence into the new Californian Bungalow style.

The immigrant building contractors, tradesmen, artisans and labourers introduced levels of skills, manpower and organisation which the building industry in Perth had never previously experienced. This improved the quality of construction and kept the price of houses competitive, while the economy was flourishing, but when the economy faltered it affected the price and even the quality of housing, particularly at the lower end of the market. The majority of the housing stock (1890-1915) in Perth is the product of the speculative builders. Building one or two houses at a time, usually in the same street or neighbourhood, these builders understood their market, took their stylistic cues from the local architects and produced solid brick and iron suburban cottages.
Perth traditionally relied on the ready availability of bricks, timber and imported corrugated iron as the principal building materials for housing. The bricks were locally manufactured from the abundant clay pits, the timber was readily available in, what were then, vast native forests and the corrugated iron could be inexpensively imported and transported throughout the state in huge quantities. Throughout the period of this study these were the principal building materials. More exotic materials such as slate and terra-cotta tiles, although desired for their prestige, were imported and expensive and therefore were used less widely, until such time as the volume of demand brought the price of terra-cotta tiles down and eventually, because of the First World War, the establishment of local production plants.

The anticipated volume of the housing market during the boom period persuaded many manufacturers in the eastern states to either export building materials to Perth, or to establish local production plants. This improved the range and standard of available building materials, particularly joinery, fixtures and fittings and also furnishings, which ensured that houses in Perth, while generally similar in plan and form, demonstrated a high degree of individuality in their decorative details.

Role of Government

Government, at both state and local levels, played a major role in supporting and facilitating the development of housing, even if at times it was a role which a reluctant government had foisted on to it by the electorate. As the nature of the population in Western Australia changed in the late 1890s, the political demands of the electorate altered, the politicians and their party platforms changed and as a consequence the role of government changed.

From the early period of settlement the British colonial government had wanted as little involvement as possible in the running of the colony.
The governor was directed according to colonial regulations as to how the Perth town site should be laid out and rules governing siting of houses in the townsite were quickly decreed. The colony was intended to be a free rural settlement and not a financial or administrative burden on the British government, therefore until the granting of statehood the colonial government took little direct action in the promotion or control of home ownership in Perth. The introduction of the Building By-Laws of 1884, prompted by concerns for public health, was the extent of government involvement.

As a result housing in Perth, prior to the gold-rush and the tremendous influx of population in the 1890s, had remained within the planning patterns of the layout of the town and the buildings retained the form of "Georgian Survival", as established early in the period of first settlement. The city was large in area and small in population, there was no substantial mass of central city housing and overall the town maintained a suburban image. There were few architects, the building industry was undeveloped, the range and quality of available building materials was limited and the provision of services, ie. water, gas, electricity, sewerage and public transport, was severely limited.

The sudden flood of immigrants to Perth caught the government by surprise and caused problems associated with the lack of adequate housing. The result was overcrowding and a pressing demand for accommodation of any sort, which some unscrupulous property owners and "jerry-builders" sought to meet by crudely subdividing central city land and providing housing of dubious construction and poor health standards. The infrastructure of the city's services was inadequate to cope with the rapid increase in population. The limited supplies of fresh water and primitive sanitary conditions extant in Perth, coupled with the overcrowding, resulted in fatal epidemics of typhoid fever and cholera. Fears for the health of the population prompted the colonial government to introduce regulations governing land subdivision and building regulations governing site setbacks, minimum room sizes, provision of fresh air and natural light and construction standards. To allow for better local control and enforcement of housing standards, the colonial
government granted local councils the right to establish their own building regulations. At the same time the logistics of improving the standard of water supply, drainage and sewerage were proving to be beyond the capacity of local government and private companies. Again public pressure placed the onus on the state government to take over these responsibilities.

The gold-rush in the mid 1890s attracted a vast transitory population to Western Australia, which John Forrest's government was keen to see settled as an enduring community in the state. Still largely shaped by the traditional values of their colonial constituents, the government offered the gold-rush immigrants property ownership, through a policy of rural land settlement, as an inducement to settle in Western Australia, but a large percentage of these immigrants came from urban backgrounds and were disinclined to turn bushland into wheat fields. Instead the new urban immigrant population chose to settle in suburban communities in Perth and Fremantle and immediately made demands of both local and state governments to provide the necessary infrastructure; piped water, gas and electricity, roads and public transport. By the early 1900s, the state government, now keen to have the immigrants settled anywhere in the state, was forced by pressure from urban politicians and their new constituents to rethink its rural settlement policy and instead turned its attention to satisfy these new urban priorities.

The suburban settlement of Perth was itself shaped by a number of factors, both general and specific to Perth. By the 1890s there was a strong negative reaction across society to the living conditions found in industrial cities in Britain and even the larger urban centres in Australia. Cities were popularly regarded as being congested, overcrowded and unhealthy, as well as the breeding ground for immorality and political instability. In English speaking industrial nations the middle-class had already fled to the seclusion, comfort and safety of the suburbs to escape these conditions, thereby clearly separating the spheres of work and home, and now social reformers were recommending that the working class be able to do the same. The development of Model Towns and the Garden City movement in Britain
reinforced the merits of suburban housing while providing models as to how it could be achieved. Therefore it was not surprising that the gold-rush immigrants from Britain and the eastern states of Australia arrived in Perth with an aversion to the squalid conditions of the overcrowded industrial city and a preference for suburban living. Perth had large expanses of inexpensive land available for residential use close to the central city and so the growth of the suburban ideal was both physically and economically feasible for a large percentage of the population.

In the 1860s contemporary reports had described Perth as being suburban in character, with an obvious separation of work and home. Just prior to the gold-rush in the 1890s Perth was little changed; it had a small population of only 8,447 and not built up a large body of dense city housing, nor was there much industry. Within a three kilometre radius of the city centre there was a vast amount of relatively inexpensive land available for suburban residential development. When the gold-rush immigrants arrived in Perth in the mid 1890s they found it possible to buy land and build a detached house within an acceptable walking distance of their work place.

The construction of the Fremantle-Perth-Guildford railway in the 1880s, for commercial purposes, had stimulated some suburban settlement along the line at Claremont and Cottesloe and the subsequent subdivision of the Perth Commonage (Subiaco) provided much residential land beyond the original boundaries of the Perth town site, but it was the wider introduction of inexpensive public transport, trains, trams, ferries and buses, encouraged by transport companies, land developers and the public, in the 1900s, which enabled many of the less wealthy sections of the population to settle in more distant suburban communities.

But the ideal of the suburban detached house could only be sustained by the provision of roads, schools, public transport and other public utilities at a cost beyond the means of individuals. Therefore communities brought pressure on their local and state governments to provide these
public amenities and services. Henceforth governments would be increasingly committed to publicly funding the infrastructure necessary to support the growth of suburban housing in Perth. Simultaneously in establishing their own local governing councils and road boards these communities introduced building regulations aimed at establishing and maintaining both their suburban ideals and property values.

The growth of the building industry in the early 1900s into Perth's largest employer meant that housing took on a life of its own; it became an economic barometer. Any downturn in the economy, as happened in 1906, meant a downturn in the production of housing and increased unemployment. Similarly, when the cost of housing rose beyond the reach of the general public, as occurred around 1910 the demand for housing decreased, unemployment increased, and the voters were disenchanted. It was this connection between the economy, affordable housing, home ownership and satisfied voters which prompted both political parties to promise government housing support in the 1911 state elections. The Labour Party, on gaining government, introduced the utopian Workers' Homes Scheme, had the government architect design a range of model houses and also became involved in the supply of building materials through the establishment of state owned industries. These political actions strongly challenged the market forces which had traditionally shaped the production of housing in Perth, but before their effect could be fully felt in the housing market war broke out in Europe and temporarily disrupted the further development of housing in Perth.

Summary

Momentous events in Western Australia associated with the gold-rushes of the 1890s confirmed the detached villa set on a landscaped suburban lot as the preferred housing model in Perth. For seventy-five years, through periods of economic growth and depression, war and peace, this pattern of housing has been cherished by the community, economically supplied by the building industry, provided with service infrastructure by government as a matter of political policy and readily financed by banks and building societies to the exclusion of alternative models. But in the
1990s the circumstances and conditions which made suburban housing feasible are fading. The high economic and environmental cost of continuing to provide suburban housing has brought this model into question. Inexpensive residential land is no longer readily available, access to the central city whether by private or public transport is time consuming and expensive, the cost of supplying water, gas, electricity, sewerage and waste water disposal to new distant low density suburban communities is more than government and taxpayers are willing to pay. The community is having to examine its conventional preference for suburban housing and to consider alternative models.

This study is timely in its description of a number of key issues which made suburban housing so desirable and readily available to the citizens of Perth in the period of 1890-1915 and the housing legacy, both physical and social, it left us. The study encompasses the physical conditions of the town site, social aspirations of the community, economic growth of the state, development of a building industry. It also explores the actions and motives of the various decision makers who shaped the development of housing in Perth, including architects, builders, local and state politicians, financiers and health officials. There is still much research to be undertaken on this subject, in particular the specific roles of the many individuals mentioned in the study, and it is anticipated that the knowledge and understanding gained from the study will provide the basis for further research, analysis and theorising on the subject.
### IMPERIAL DIMENSIONS

#### LENGTH
- 12 inches equal 1 foot
- 3 feet equal 1 yard
- 66 feet equal 1 chain
- 22 yards equal 1 chain
- 80 chains equal 1 mile

#### AREA
- 9 square feet equal 1 square yard
- 10,890 square feet equal 1 acre
- 1,210 square yards equal 1 acre
- 4,840 square yards equal 1 acre
- 640 acres equal 1 square mile

### METRIC CONVERSIONS

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