

CREATING HOME IN URBAN AUSTRALIA
THE ROLE OF SITE, SPACE AND FORM

By

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J Wallin
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ABSTRACT

Environmental concerns, together with increasing development costs have created the need for urban housing which can provide an alternative to the popular, but low density detached house. Coaxing Australians into denser housing, however, is proving a difficult task, particularly as many regard the detached house as the ideal home.

The concept of home is extremely complex, incorporating many physical, social and psychological factors. However, attempting to understand and incorporate these attributes into the development of denser housing will surely produce a greater acceptance of urban housing in Australian cities. This approach must be preferable to simply insisting that Australians modify their lifestyles and values in order to accept urban housing.

This thesis will explore one important component of housing design - spatial organisation, in order to establish its role and importance in creating home in Australia. Spatial organisation describes the method of arranging dwellings, external spaces and associated facilities on a site. It forms a particularly important consideration in the design of urban housing where it is often necessary to design a number of individual dwellings and functions on a common block of land. This research is therefore not concerned with the internal spatial arrangement of the dwelling, instead focusing on the relationship, both physically and socially, between the individual dwelling and the broader community and urban fabric.

The major component of this research traces the historical development of spatial organisation in Australian housing. This occurred in two distinct phases involving:

- a) the modification of English cultural models; and
- b) the post World War II application of Modernist housing principles.

These two phases were characterised by contrasting spatial organisations which produced very different concepts of home. The traditional model, for example, favoured individual and private homes whereas the Modernist models emphasised mass housing developments with communal facilities.

Evaluation of these models reveal that many Australians have a clear preference for the domestic qualities produced by the traditional spatial organisation while contemporary housing design still incorporates many aspects of Modernist spatial organisation. This thesis examines this paradox from a number of perspectives and concludes with a new direction for spatial organisation in urban housing, based on an Australian perception of home. In addition, it demonstrates the value of multi-disciplinary research in the development of contemporary design theory, which balances the needs of the broader population against the inclinations of the design profession.

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INTRODUCTION

Increasing land development costs and the need for environmentally sustainable cities have led both Federal and State governments to actively promote urban consolidation in Australian cities. An important component of this policy is the development of urban housing models which will provide an alternative to the popular, but low density detached house. Despite these sound intentions, many Australians view denser housing with a large degree of reservation. To much of the population the detached house, complete with front and back yard, is the ideal home and consequently denser housing is not a popular alternative.

The concept of home is extremely complex, incorporating many physical, social and psychological factors. Saegert described home as follows:

Not only is it a place, but it has psychological resonance and social meaning. It is part of the experience of dwelling - something we do, a way of weaving up a life in particular geographical spaces.¹

The design of homes, therefore, is a difficult task. It is particularly complicated in the design of denser housing, where a number of individual dwellings and associated facilities must be accommodated on a common block of land. The increase in density creates difficulties in ensuring important residential qualities such as privacy, open space, security and solar access. In addition, it is necessary for the designer to undertake important decisions without prior knowledge of individual resident's preferences and requirements. Creating individual homes for unknown clients poses one of the most difficult challenges in the design of urban housing. However, attempting to understand and incorporate the attributes of home into the development of denser housing will surely lead to a greater acceptance of urban housing in Australian cities. It must be a more successful approach to simply assuming that Australians will modify their lifestyles and values in order to accept urban housing.

This research will focus on one important design component of housing - spatial organisation, in order to establish its role and importance in creating home in Australia. Spatial organisation describes the method of siting individual dwellings, external spaces and associated facilities in a housing development. It is not concerned with the internal design of the dwellings, except for specific relationships between internal functions and external spaces, for example, the relationship between the front door and the street. Instead this study will examine:

- a) the relationship, both physically and socially, between the individual dwelling and others within the housing development;
- b) the types of external spaces provided such as semi-private, private, common and public, and their relationship to the individual dwellings;

¹ S.Saegert, 'The role of housing in the experience of dwelling', in *Home Environments : human behavior and environment*, eds I. Altman & C. Werner, vol. 8, (New York : Plenum, 1985),pp. 287-8, as quoted in Roderick J. Lawrence, *Housing, Dwellings and Homes: Design Theory, Research and Practise*, foreword by David Stea, (Chichester, England : John Wiley, 1987), p. 5.

- c) the design of pedestrian and vehicular circulation as well as other facilities such as car parking, utility areas and recreational facilities; and
- d) the relationship between the housing development and the surrounding community and urban fabric.

Background

The major component of this research traces the historical development of spatial organisation in Australian housing. This development occurred in two distinct phases:

- a) the first involving the modification of English cultural models to meet the needs of an emerging Australian society; and
- b) the second phase, which began in the late 1940s, involving the application of Modernist architectural and planning theories for housing.

Prior to World War II, Australian housing developed largely as a response to the 'boom and bust' cycles which characterised the Australian economy. Rapid periods of construction alternating with periods of depression resulted in homogenous bands of housing in distinct age groups, styles and condition. By the beginning of the Great Depression of the 1930s, Australian cities were characterised by an inner city of attached terraces and cottages and an outer suburban area of detached housing. Cities such as Melbourne and Sydney also contained a number of flat and apartment buildings.

By the onset of World War II, the detached house on its individual block of land had firmly established itself as a housing ideal, providing qualities such as domestic privacy, ownership and private open space. Many of these qualities represented in the suburban detached house, however, were also evident in other housing types. These qualities were not a factor of dwelling type, but instead dependent on the organisation of space around the house; that is, the spatial organisation. Elements of this spatial organisation included:

- a) an identifiably 'individual' dwelling (even with attached housing) with an entrance which was clearly visible from the street;
- b) a semi-private front yard which provided a transitional space between the public domain (the street) and the private house;
- c) a fenced back yard which provided privacy from neighbours and created a private area of outdoor space; and
- d) a series of streets, lanes and public open spaces which formed the public domain, - the urban framework.

Many of the early apartment buildings also adopted a variation of this spatial organisation.

Although this spatial organisation was quite simple, it was extremely important. It clearly delineated the territory of the housing, ensured domestic

privacy and established a consistent spatial relationship between housing and the broader community. It also contributed to the definition of home as a strictly private and individual affair. By the early twentieth century, this spatial model had become characteristic of Australian housing. Although derived from English models, the popularity and uniformity of this spatial organisation had established it as an important Australian housing tradition.

This situation was significantly altered with the introduction of Modernist housing concepts into Australia in the 1940s. An extreme post war housing shortage, together with the need to redevelop slum areas and improve housing conditions, created the ideal environment for the application of Modernist housing principles. These principles first emerged in Europe during the early twentieth century, partly in response to the inequitable and chaotic housing conditions found in many cities. Central to Modernist theory was a strategy of defamiliarisation which intentionally ignored existing social or urban conventions, instead relying on the forces of architecture and planning to create a more equitable society.

This theory had far reaching implications for the design of housing, particularly in regards to spatial organisation. It produced new methods for organising housing, pedestrian and vehicular circulation and open space in order to:

- a) provide an equitable standard of living for all residents, regardless of class;
- b) create new collective relationships between residents;
- c) utilise new technological advancements such as reinforced concrete;
- d) improve health standards in housing through the provision of maximum sunlight, fresh air and open space; and
- e) reform the perceived chaos and overcrowding which characterised the capitalist city.

Three influential spatial organisations developed during the course of the twentieth century:

Neo-Radburn, an interpretation of the Radburn housing development designed by Clarence Stein and Henry Wright in the 1920s;

High Rise in Parkland, which first emerged in Europe during the 1920s; and

Low Rise Urban, a low rise, high density model which developed in the 1960s in response to the failings of high rise housing.

These three spatial concepts proved influential in Australia, particularly in urban housing constructed between 1950 and 1980. These concepts produced housing which was very different, both physically and socially, to that which existed in Australia prior to World War II.

Scope

Over the past thirty years, many sociologists and urban theorists have identified severe limitations with the design of many Modernist housing developments. Their concerns have consistently focused upon the spatial organisation of the housing and the resultant social and functional problems. Unfortunately, these findings have had little influence on the design of urban housing in Australia. While high rise is in disrepute, especially for family living, it seems that many aspects of Modernist spatial theory persist and indeed have become integral in the design of contemporary Australian urban housing.

The aim of this thesis is to demonstrate that:

- a) since World War II, the design of urban housing in Australia has been largely influenced by Modernist spatial concepts;
- b) the Modernist approach to spatial organisation is fundamentally at odds with the established and preferred Australian view of home;
- c) although many architectural aspects of Modernism have been disregarded, Modernist spatial organisations still persist in the design of contemporary urban housing; and
- d) finally, that the incorporation of a more appropriate spatial organisation will contribute significantly to the design of successful urban housing in Australia.

In addition, this thesis will demonstrate the value of multi-disciplinary research, particularly from the field of behavioural studies, in the development of contemporary design theory, which balances the needs of the broader population against the inclinations of the design profession.

The study is divided into two major parts:

The first section is concerned with the historical development of Australian housing, establishing the social, political, and design rationale behind the introduction of Modernist housing principles into Australia. It forms the major body of the thesis and consists of the following three chapters:

Chapter One will explore the historical development of housing in Australian cities, particularly focusing on the origins of values such as ownership and privacy.

Chapter Two will trace the development of Modernist principles for housing, particularly the link between Utopian socialist ideology of the late nineteenth century and Modernist spatial theory. It will focus on the development of three influential spatial models: Neo-Radburn, High Rise in Parkland and Low Rise Urban.

Chapter Three will focus on the introduction of Modernist spatial models into Australia and documents the modifications and application of these principles.

The second section of the thesis will evaluate the success of Modernist spatial concepts in Australia and will attempt to incorporate these findings into a form which is relevant to the design of contemporary Australian urban housing. This section consists of the following two chapters:

Chapter Four will examine a range of multi-disciplinary studies, including post-occupancy evaluations, social analysis and urban theory, in order to establish the success or otherwise of Modernist spatial theory as applied in Australian housing.

Chapter Five, the final chapter, will develop principles based on previous analysis which can be applied to the design of contemporary urban housing in Australia. The aim of this section is not to provide prescriptive guidelines, but rather a strong design direction which can be modified and adapted according to site conditions and residential needs.

CHAPTER I

THE DEVELOPMENT OF AUSTRALIAN HOUSING

Australia's earliest cities were established at a moment in time, unlike European cities which developed over many centuries.¹ Consequently, the early colonial administrators were conscious of avoiding the urban problems already evident in many European and English cities. Much of the new population, both convicts and free settlers, had originated from the slums of London and surrounding industrial cities. The government feared that the rapid growth of colonial towns, together with a concentration of ex-convicts, would create the same health and moral problems already found in English cities.²

In response to these fears, the policies of the early governors favoured low density development on dispersed land holdings.³ Governor Phillip's first town plan for Sydney in 1789, for example, actively promoted detached houses with gardens, in preference to attached terrace housing. He directed that streets be laid out:

...in such a manner as to afford free circulation of air, and when the houses are built...the land will be granted with a clause that will prevent more than one house being built on the allotment, which will be sixty feet in front and one hundred and fifty feet in depth.⁴

This dispatch clearly demonstrates that early Australian housing was intended to provide qualities such as fresh air, sunlight, privacy and open space. The unsanitary, overcrowded housing tenements found in English cities were not to be replicated.

Governor Phillip's plan for Sydney, however, was largely ignored and Sydney developed haphazardly, largely under the influence of private speculators. This was to be typical of the development of Australian housing throughout the nineteenth and early twentieth centuries. Housing was to be influenced more by the boom and bust cycles which characterised Australia's early economy than by direct government intervention.

1 J. W. McCarty, 'Australian capital cities in the nineteenth century', in *Urbanization in Australia : The Nineteenth Century*, eds C. B. Schedvin & J. W. McCarty, (Sydney : Sydney University Press, 1974), p. 12.

2 Graeme Davison, 'The past and future of the Australian suburb', in *Polis, The National Urban Review*, no. 1, 1994, p. 5.

3 Roderick. J. Lawrence, 'The sanitary house remodelled : the import of British health and housing reforms in Australia, 1860-1920', in *Architectural Science Review*, vol. 26, 1983, cited Ross Thorne, *Medium Density Housing in Sydney - 2 Surveys : Attitudes of Users and Non-users* (Sydney : Department of Architecture, University of Sydney for the I. B. Fell Research Centre, 1983), p. 10.

4 Arthur Phillip to Lord Sydney, 29 July 1788, *Historical Records of N.S.W.*, vol. 1, pt. 2, 1783-1792, (Sydney 1892), pp. 147-8, as quoted in Davison, op. cit., p. 4.

EARLY DEVELOPMENT

Unfamiliar environmental conditions and a lack of labour and materials forced the early Australian settlers to adapt their European building techniques and housing designs. In Sydney, for example, a shortage of lime, together with difficult timber and unlimited space made the construction of familiar two storey housing unnecessary and inconvenient. As the early builders had no precedent for single storey town dwellings, early Australian housing was based largely upon designs for the English country cottage.⁵

By 1800 the settlement's earliest houses had been replaced by more permanent cottages. James Grant, who visited Sydney in 1800, observed a high standard of living, with most families living in their own home:

It is seldom that two families inhabit one dwelling, therefore every man becomes absolute master of his own house, and when he can afford it, he weatherboards and paints it. In the smallest dwelling I entered, I never saw less than two apartments. Many houses are constructed with bricks, and as well finished to the eye as European buildings...In short, from the very comfortable manner these people are lodged (much more so than the poorer sort in England) I cannot avoid remarking, that it no doubt has a tendency to promote the great degree of health and flow of spirits I observed them possessed of, and readily accounts for many wishing to remain, whose years of banishment have expired.⁶

Beginning with the establishment of the wool industry in the 1820s, the growth of Australian cities became a response to intense periods of economic development. These periods of rapid construction, alternating with periods of depression, had a major influence on housing construction. It resulted in homogenous bands of dwellings of distinct age groups, style and condition.⁷

The development of the **wool industry** provided the colony with an important trade commodity and led to the growth of the early cities as trading ports. In response to this concentration of population and trade, Governor Darling directed the formalisation of town and city layouts. His most significant stipulation was that the street pattern 'should always be rectilinear'.⁸ Melbourne, Brisbane and Perth were laid out in strict accordance to Darling's plan. No regulations were included for the provision of public squares or parkland. Adelaide, however, under the control of Colonel William Light, was designed with more consideration for the topography and with provision for public open space.

The growth of Sydney remained largely speculator driven, resulting in an unplanned urban form. Early industry located itself close to water supplies and relatively flat ground, particularly around Botany Bay. Early housing development was restricted by short term land leases until the creation of

⁵ Robin Boyd, *Australia's Home: Why Australians Built the Way They Did*, 2nd edn, (Harmondsworth : Penguin, 1978), p. 20.

⁶ J. Grant, 'The narrative of a voyage', p. 83, as quoted in John Archer, *Building a Nation : A History of the Australian House*, (Sydney : Collins, 1987), p. 31.

⁷ Chris Paris, 'Housing issues and policies in Australia', in *Urban Australia : Planning Issues and Policies*, eds Stephan Hamnett & Raymond Bunker, (Melbourne : Nelson Wadsworth, 1987), p. 81.

⁸ J. M. Freeland, *Architecture in Australia : A History*, (Melbourne : Cheshire, 1968), p. 61.

perpetual leases in 1827. These leases permitted the subdivision of many large blocks allowing speculators to construct attached and semi-detached housing.⁹ As the inner areas became crowded with housing and industry, many of the wealthy (including ex-convicts) elected to build villas away from the inner city, often in elevated areas overlooking the harbour.¹⁰

By 1851, Sydney, Melbourne and Adelaide emerged as substantial towns with populations of 54,000, 29,000 and 18,000 respectively.¹¹ As most transport was limited to walking, these early cities grew in a compact form, with workers living close to the ports and industry.

The 1850s **gold rush** was the start of a prosperous period for Australia, which was to last until the 1890s. During this time cities such as Melbourne and Sydney developed at a rapid rate. Most of the development though was unchecked, with land speculators dictating the subdivision of land. The lack of government control resulted in the development of cities with only limited industrial, commercial and social infrastructure.¹² The national population grew rapidly as immigrants arrived in Australia in search of fortune. For example, between 1851 and 1861 the population increased from 400,000 to 1.2 million.¹³ Australian cities simply did not have adequate infrastructure to cope with this population explosion. N. G. Butlin calculated that in 1861 approximately one third of Australians were living in substandard housing such as tents and shacks.¹⁴ In response, timber framed weatherboard cottages were constructed extensively on the fringes of many towns and cities.

The **terrace boom**, which began in the 1870s, resulted from a general trend towards the establishment of a more dynamic and industrialised society. Due to the lack of public transport, it was necessary to house the increasing population within walking distance of inner city employment. The attached terrace house, with its repetitive design and small allotments, was particularly favoured as a source of investment by speculator builders. The terrace boom occurred primarily in Sydney and Melbourne and coincided with:

- a) the development of new building techniques which allowed housing to be built more efficiently and economically. For example, the development of the mechanical brick press enabled better quality bricks to be produced more cheaply and faster; ¹⁵
- b) a rapid population growth in cities; and
- c) an increase in the number of financiers and speculators who generated more capital for construction.

⁹ *ibid.*, p. 66.

¹⁰ Davison, *op. cit.*, p. 5.

¹¹ Lionel Frost, '19th century Australian cities', in *Suburban Dreaming : An Interdisciplinary Approach to Australian Cities*, ed. Louise C. Johnson, (Geelong, Victoria : Deakin University Press, 1994), p. 25.

¹² N. G. Butlin, *Investment in Australian Economic Development 1861-1900*, p. 324, cited Leonie Sandercock, *Cities for Sale : Property, Politics and Urban Planning in Australia*, 2nd edn, (Carlton, Victoria : Melbourne University Press, 1977), p. 9.

¹³ Frost, *op. cit.*, p. 27.

¹⁴ Frost, *op. cit.*, p. 30.

¹⁵ Robert Irving, (ed.), *The History and Design of the Australian House*, (Melbourne : Oxford University Press, 1985), p. 65.

Terrace housing was based on London grade four and five terraces with more local adaptations such as front and back verandahs.¹⁶ They were generally cool and airy, complete with small rear back yards which had direct access to service lanes. This period produced mass construction of one and two storey terraces in many inner city areas. The impact of the terrace boom in Australian cities, however, was varied - ranging from the redevelopment of whole suburbs in Sydney to limited examples in Perth and Brisbane. Figure 1. illustrates the intensive terrace development which occurred in the inner Sydney suburb of Glebe prior to the 1890s.

Withdrawal of overseas capital and the collapse of speculative ventures resulted in a major depression in the 1890s. For most of this decade, many Australians were affected by low wages and severe unemployment.¹⁷ This resulted in overcrowding in many inner city areas, with peak densities in Melbourne recorded at 37 persons per acre, with some parts of Sydney reaching 79 persons per acre.¹⁸ This overcrowding, together with the construction of factories in the inner city and the poor quality urban infrastructure resulted in the inner city being labelled as 'slums'.

Robert Freestone summarised the standard physical elements of the slums as:

- a) a subdivision pattern of streets, lanes, alleys and dead ends;
- b) small allotment sizes, relatively high housing densities and small gardens and back yards;
- c) speculator built, narrow fronted terraces and row houses;
- d) overcrowded houses with poor ventilation and often no bathrooms or laundries;
- e) factories and workshops located adjacent to housing; and
- f) a lack of public open space and trees.¹⁹

Although the effects of depression passed by the late 1890s, it took many decades before the inner city regained favour. This was primarily due to the development of the suburbs - the outer ring of land surrounding the inner city.

16 Philip Cox, 'Collapse of a suburban dream', in *Medium Density Housing in Australia*, eds Bruce Judd & John Dean, (Canberra : RAI Education Division, 1983), p. 8.

17 Sandercock, op. cit., p. 10.

18 Lionel Frost, 'Suburbia and inner cities,' in *Populous Places : Australian Cities and Towns*, ed. A. Rutherford, (Sydney : Dangaroo Press, 1992), p. 195, cited Renate Howe, 'Inner suburbs : from slums to gentrification', in *Suburban Dreaming : An Interdisciplinary Approach to Australian Cities*, ed. Louise C. Johnson, (Geelong, Victoria : Deakin University Press, 1994), p. 150.

19 Robert Freestone, *Model Communities : The Garden City Movement in Australia*, (Melbourne : Thomas Nelson, 1989), pp. 48-49.

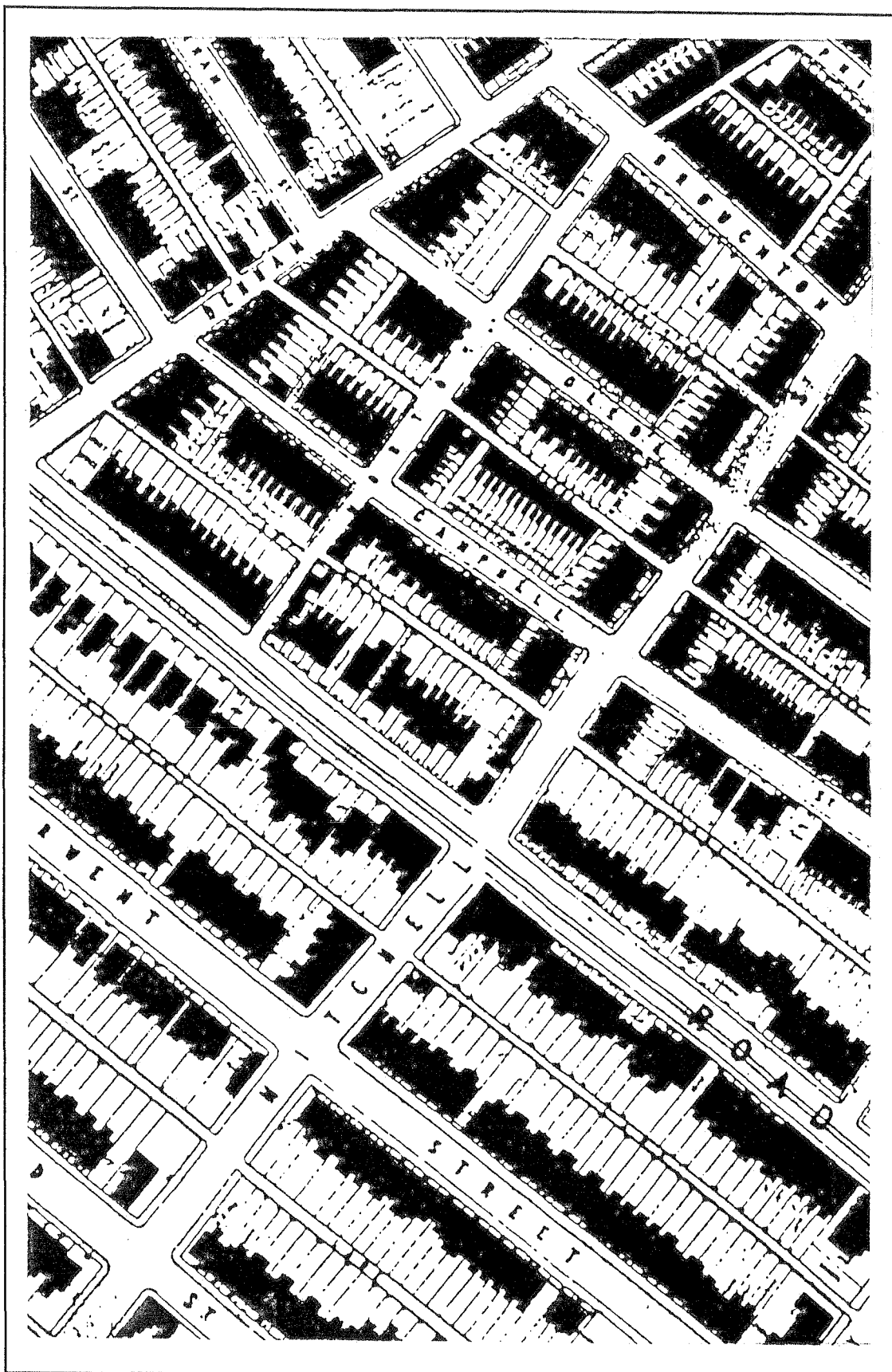


Figure 1. 1888 map of the inner Sydney suburb of Glebe. The streets and lanes were lined predominantly with attached terraces and cottages.
(Source: Mitchell library, Sydney)

THE SUBURBS

The development of the suburbs was primarily the result of advancements in public transport. Trams, ferries and suburban railway systems provided access to land on the city fringes. It was no longer necessary to limit development to compact 'walking' cities. The growth of the suburbs was strongly supported by the government which:

- a) provided much of the infrastructure such as suburban railways and schools. This was financed predominantly through the sale of Crown lands and customs duties;²⁰ and
- b) developed semi-government financial institutions to provide lending schemes for home ownership. For example, the N.S.W. government established the State Bank in 1906 to provide finance for the purchase of homes.²¹ Similarly the South Australian State Bank was established in 1910 and developed a housing scheme which not only provided finance, but also housing designs and tendering procedures.²²

These conditions created the opportunity for many to own a suburban detached house with garden, away from the inner city. Real estate agents and land developers actively promoted the ideals of suburban life. By the early 1900s, Sydney papers such as the *Daily Telegraph* suggested that 'the wider the area upon which a city's inhabitants dwell, the better it is for their health and home comfort'.²³ The detached house, complete with private garden in the suburbs, soon symbolised the good life.

For those that could not afford the suburban house, the semi-detached cottage formed a cheap alternative. The semi was a transitional type of housing, which featured elements of both terrace housing and the detached cottage. For example, all the rooms were constructed on the same level, with a party wall providing privacy between the two dwellings. Each house had its own private back yard with a separate entrance through a front yard. From the exterior, the house was designed to resemble one dwelling as the party wall did not penetrate the roof. Beginning in the 1890s, many semi-detached cottages were constructed by speculators in working class suburbs.

Model suburbs developed as a progression of the standard grid subdivision. These began as early as the mid 1870s and were specially designed to create a residential environment which was superior to the regular suburban subdivision.²⁴ They often contained large allotments, public open space, recommended land use zoning and wide streets with no lanes. They were speculator driven, aimed at attracting residents through social distinction. A plan for Haberfield, a Federation model suburb developed in Sydney in 1902, is shown in Figure 2.

²⁰ Davison, op. cit., pp. 5-6.

²¹ Donald J. Dunbar, '1920s and 1930s Flats', in *50 Years of Modernity in Australasia : 1920-1970, papers from the 12th annual conference of The Society of Architectural Historians, Australia and New Zealand*, ed. Desley Luscombe, 1995, pp. 113-114.

²² Irving, op. cit., p. 125.

²³ Freestone, op. cit., p. 49.

²⁴ Freestone, op. cit., p. 53.



Figure 2. The model suburb of Haberfield was characterised by generous streets, detached housing and an absence of lanes.
(Source: Freestone, *Model Communities*, p. 163, p. 83.)

Although the overcrowding of inner city areas eased by the turn of the century, much of the inner city remained slums because it lacked the qualities of suburban life, particularly ownership. As Renate Howe explained:

The slum was defined by the suburb; the label was freely applied to those areas which did not meet the criteria of the suburban ethos as it was defined in the later part of the nineteenth century.²⁵

Typically the inner city contained a high proportion of rental properties with up to 90 percent of some inner Sydney areas being controlled by landlords.²⁶ The issue of ownership contributed significantly to the decline of the inner city. This was largely due to:

- a) properties falling into a state of decay, often because housing was constructed on leases which created no incentive for owners to maintain their properties; and
- b) the goal of home ownership becoming more entrenched.

To own a house in the suburbs was the 'Great Australian Dream' or as the *Australian Financial Gazette* published in 1890, 'not to have your own home is unpatriotic'.²⁷ As a consequence, not only did the inner suburbs lose favour but so also did specific housing types. For example, in Sydney the terrace house was labelled as 'an inherently bad form of housing that fostered the slum attitude, crime and immorality'.²⁸

By the end of the nineteenth century Australian cities had developed into two distinct forms. Lionel Frost described these forms in the following passage:

Sydney, Brisbane and Hobart were compact, land-intensive cities which more closely resembled those of Britain, Europe and eastern North America, than they did the other Australian cities. Melbourne, Adelaide and Perth were of far lower density with sprawling suburbs like those of the American West.²⁹

This distinction was also reflected in housing types, with cities such as Sydney and Hobart containing a range of denser attached housing close to the inner city, while other cities maintained a more dispersed suburban nature.

²⁵ Howe, op. cit., p. 149.

²⁶ Shirley Fitzgerald, *Rising Damp : Sydney 1870-90*, (Melbourne : Oxford University Press, 1987), p. 41, cited Howe, op. cit., p. 150.

²⁷ Robert Freestone, ' The conditions of the cities and the response : early garden city concepts and practise', in *Living in Cities : Urbanism and Society in Metropolitan Australia*, eds Ian Burnley & James Forrest, (Sydney : George Allen & Unwin, 1985), p. 15.

²⁸ Shirley Fitzgerald & C. Keating, *Millers Point : The Urban Village*, (Sydney : Hale & Iremonger, 1991), p. 80, as quoted in Howe, op. cit., p. 153.

²⁹ Lionel Frost, 'Suburbia and inner cities', p. 191, as quoted in Howe, op. cit., p. 147.

FLAT AND APARTMENT BUILDINGS

Federation was an important period for Australian cities. Federation produced increased nationalism and prosperity, resulting in half of all Australian housing being owner occupied by 1911.³⁰ This period also coincided with the establishment of the Town Planning profession in most Australian states.

The Town Planning Association was first formed in N.S.W. in 1913, and by 1916 had expanded into other Australian cities.³¹ The influence of Town Planning during the early twentieth century was generally limited to the enforcement of minimum building standards, support for slum reform and the promotion of suburban living. Although Garden City ideas had arrived in Australia as early as the 1890s, new town planning ideas were generally limited to subdivision experimentation.

Middle class social reformers were particularly concerned with the overcrowded inner city housing and the high rate of tenancy. They believed that the best examples of housing were those which could be owned, and actively opposed the construction of flat and apartment buildings.³² The introduction of building legislation and minimum standards, directly influenced the types of housing constructed. For example, the N.S.W. Local Government Act of 1919 prohibited the construction of dwellings joined by a party wall.³³ Consequently, this legislation restricted terrace house construction, instead promoting the building of detached housing on individual suburban blocks.

Regardless of the efforts of the early social reformers, flat and apartment buildings began to appear in Australian cities by the early 1900s. The demand for this type of accommodation, however, had not emerged from the working class, but instead from the middle class. This was due to a combination of factors including:

- a) an increase in single person households, for example war widows;
- b) post World War I economic conditions;
- c) a shortage of building materials; and
- d) a growing desire on the part of the wealthy for smaller accommodation due to their inability to afford live in servants.³⁴

In addition to the growing demand, legislation such as the New South Wales Fair Rents Act No. 66 1916, provided financial incentive for investors to construct apartment buildings. This legislation provides one explanation for the popularity of flat and apartment buildings in Sydney during the 1920s

³⁰ Paris, op. cit., p. 86.

³¹ Dunbar, op. cit., p. 104.

³² Dunbar, op. cit., p. 105.

³³ Local Government Act, 1919, Section XI, cited Richard Cardew, 'Flats in Sydney: the thirty per cent solution?', in *Twentieth Century Sydney : Studies in Urban and Social History*, ed. Jill Roe, (Sydney : Hale and Iremonger in association with The Sydney History Group, 1980), p. 70.

³⁴ Dunbar, op. cit., pp. 106-107.

and 1930s, which outnumbered similar construction in Melbourne by 2:1.³⁵ Private development of flat and apartment buildings began in Sydney during the 1900s, reaching a peak in the 1920s and 1930s. These buildings were serviced with modern facilities such as hot-water, internal bathrooms and laundries, central heating, gas or electricity, and built in furniture and fixtures.³⁶ The cost of building and renting this accommodation was generally higher than was the case with the average cottage. Prior to World War II, flat and apartment buildings in Sydney were mainly constructed in three locations:

- a) the inner city suburb of Kings Cross, where many flats including high rise (eight stories) were constructed during the 1920s;
- b) ocean or harbour side areas such as Manly and Bondi. These areas had excellent views, large allotments and were close to beaches and resorts; and
- c) during the 1930s, the western suburbs which were close to the suburban railway system.³⁷

In Sydney, both State and Local government were involved in the construction of model workers housing. Although a limited number of examples were constructed prior to the Great Depression, these models are extremely significant as they represent some of the first attempts to develop denser housing forms suitable for Australian cities.

Millers Point

The outbreak of the bubonic plague in Sydney's Millers Point in 1900 forced the government to become involved in housing. In response, the State government established the City Improvement Advisory Board which, together with the Sydney Harbour Trust, was responsible for resuming the area. The first plans involved the redevelopment of Millers Point for commercial uses. The difficult topography, however, and the need to house maritime workers close to the harbour forced the Trust to undertake one of the first large scale residential redevelopments in Australia.³⁸

The City Improvement Advisory Board studied housing models from around the world. Unfortunately for the architect Varney Parkes, none of the residents found his ideas suitable. Parkes concluded that:

...though designs had been examined around the world, none would meet the requirements of the colony, and a completely new type of flat with better facilities had to be designed to cater for the needs of the residents.³⁹

³⁵ Dunbar, op. cit., p. 107.

³⁶ Dunbar, op. cit., p. 107.

³⁷ Cardew, op. cit., pp. 77-78.

³⁸ Terry Kass, A socio-economic history of Millers Point, Sydney, 1987, pp. 29-30, cited Gina Ghioni, Waterloo : A case study of public housing and redevelopment in Sydney, Advanced Study Report, University of Sydney, 1990, p. 7.

³⁹ Kass, *ibid.*, p. 48, as quoted in Ghioni, *ibid.*, p. 8.

Housing construction began in 1906 and included a range of innovative infill models such as three storey apartments and duplex buildings with roof top courts. These models are significant as they were developed in response to local conditions and the needs of existing residents. However, a forerunner to this innovative work was the construction of the Stevens building in Millers Point in 1900. This four storey building, containing two bedroom apartments, is believed to be one of the first apartment buildings in Australia.⁴⁰

The Strickland Apartments

The introduction of the Sydney Corporation (Dwelling Houses) Act by the Labor Government in 1912 allowed local Councils to resume land for public housing.⁴¹ The largest project was the Strickland Apartments, built by the Sydney City Council in 1914. These apartments were designed as an alternative to the traditional working class terrace housing and were constructed in the inner Sydney suburb of Chippendale.

The complex was designed by City Council architect Robert Brodrick and contained 71 flats for working class families and 8 shops. The design incorporated many new health standards such as internal kitchens, bathrooms and toilets, together with roof terraces for washing and drying clothes and large balconies for each unit. The three storey building was articulated into a number of bays, achieving the appearance of a series of smaller buildings which were compatible in scale with the adjacent terrace housing.⁴² This design feature is evident in the ground floor plan and front elevation shown in Figure 3. Despite its modern facilities, the building received much criticism. Although superior to adjoining inner city housing, the lack of open space and gardens was believed to produce psychological problems for residents.⁴³

In the 1920s, the Labor Party gained control of Sydney City Council and was committed to the construction of workers housing in the inner city. By the time of the Great Depression, the Council had constructed three more inner city apartment projects. Although these schemes received public commendation, the dismissal of the Labor City Council by the National Party in 1927 ended local government involvement in the provision of housing.⁴⁴

Although there were many excellent examples of flat and apartment building construction during the early twentieth century, there were also many cases of poor design. As the building process remained largely unregulated, builders often constructed over the entire site, resulting in problems with overshadowing, ventilation, solar access and the provision of open space. In 1940, the N.S.W. government finally introduced special building legislation aimed at regulating flat and apartment building construction.⁴⁵

40 Plaque on building placed by builder's descendants.

41 Dunbar, op. cit., p. 113.

42 A. Nassopoulos, *Early city planning in Sydney and the work of Robert Hargreave Brodrick (1860-1934)*, ASR, University of Sydney, 1987, Ch. 6, cited Ghioni, op. cit., p. 17.

43 *Building Magazine*, 12 August, 1916, pp. 46-48, cited Ghioni, op. cit., p. 17.

44 Peter Spearritt, *Sydney Since the Twenties*, (Sydney : Hale and Ironmonger, 1978), p. 15.

45 *ibid.*, p. 72.

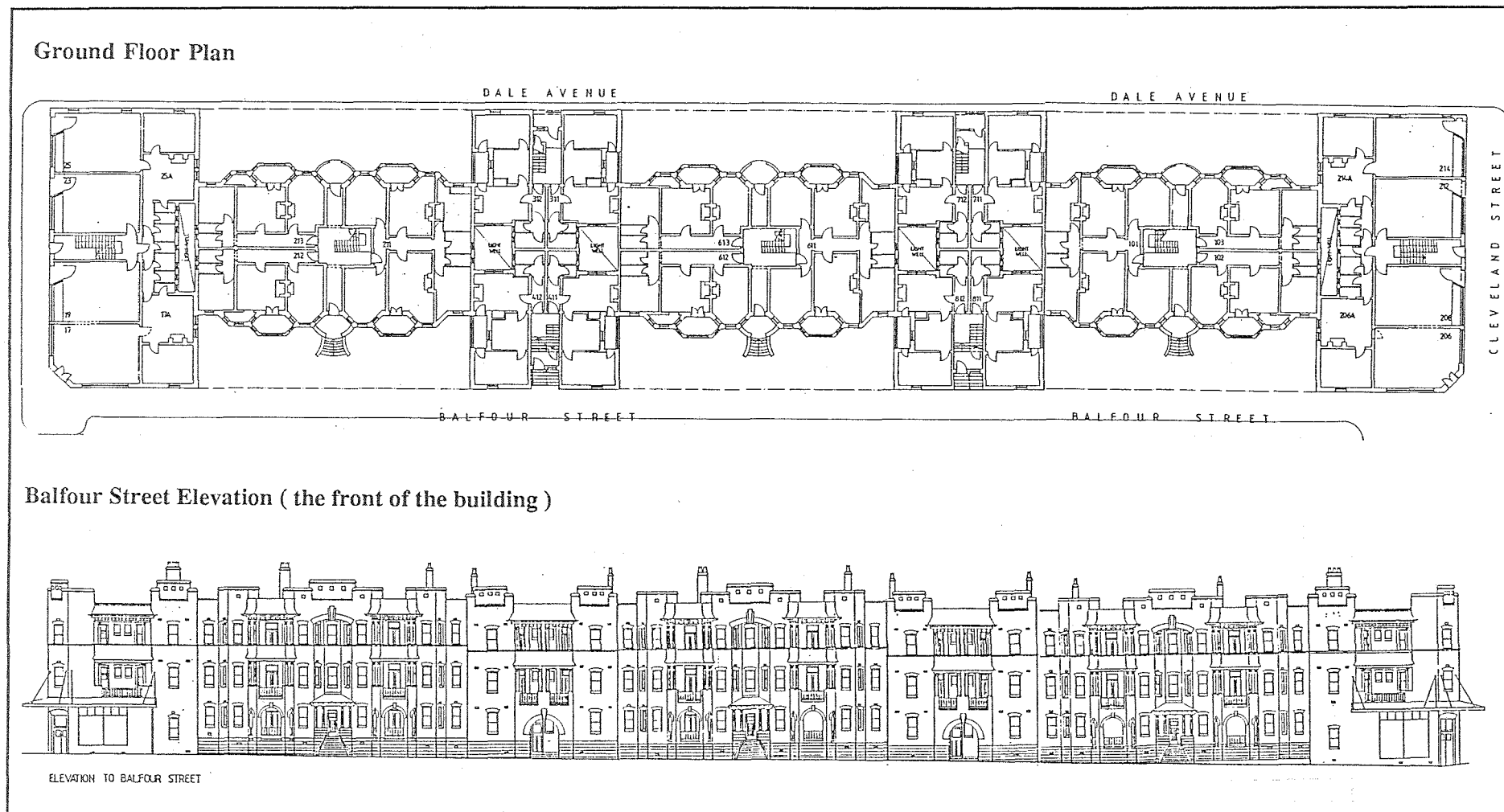


Figure 3. The Strickland Apartments, note the articulation of the building into a series of distinct blocks, each with their own street entrance
(Source: N.S.W. Department of Housing)

QUALITIES OF AUSTRALIAN HOUSING

By the beginning of the Great Depression of the 1930s, Australian cities were characterised by an inner city of attached terrace housing and cottages and an outer suburban area of detached housing. Cities such as Melbourne and Sydney also contained a number of flat and apartment buildings. The detached house on its individual block of land had firmly established itself as a housing ideal, providing qualities such as domestic privacy, ownership and private open space. In contrast the inner city suburbs of attached housing had been stigmatised as slums, although often for reasons relating to ownership rather than dwelling standards.

Australian housing provided qualities which were distinctly different from other western cities. E. C. Buley, an English visitor to Australia in 1905, offered a detailed description of life in suburban Australia:

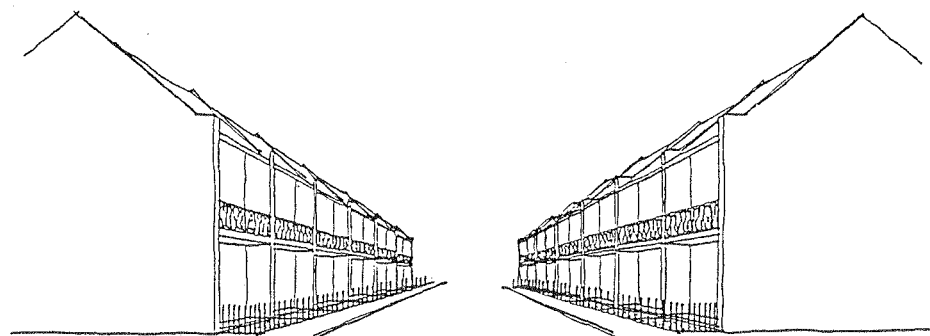
Here the houses are all single-storied bungalows, or villas, as the Australians prefer to call them, each standing in its own plot of garden...There is an air of roominess and privacy about these Australian suburbs that stands for a good deal of solid comfort...The most arduous task of the amateur gardener is the constant use of the watering-can; the rest is done by Nature with a lavish hand. The vine and the fig tree are by no means impossible, and a rough erection of wooden laths makes an ideal fern-house. These things figure very largely in the life of the average Australian city-dweller, who leaves his city office at five, changes into easy clothing as soon as he arrives home, dines comfortably about half-past six, and then potters about his garden until it grows dark.⁴⁶

Even the inner city terraces were not regarded as slums by overseas visitors. For example, in 1913 a leading German planner Werner Hegemann was shown inner city terrace housing in Sydney. After the tour, his guide John Garlick noted that 'the very type of house I was condemning was the ideal which the present generation of German town improvers (was) striving to reach'.⁴⁷

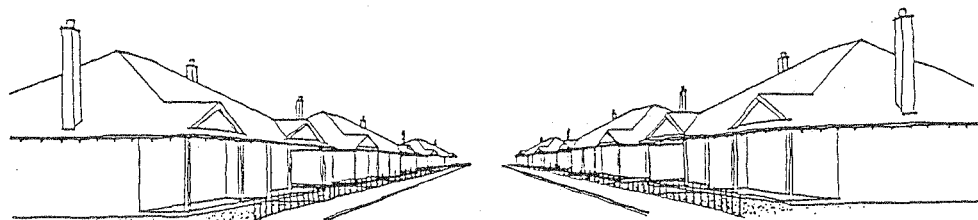
Privacy, an individual house with garden and home ownership were all goals attainable for a large percentage of the population. These qualities however were not limited to the suburban detached house. They were also available in other housing types such as the terrace house, semi-detached cottage and the workman's cottage. These qualities, although related to the dwelling type, were largely a factor of the relationship between the house and the public domain; that is, the spatial organisation of the individual house, adjoining housing and the urban fabric of streets, lanes and public open space.

Figure 4 illustrates this spatial organisation which was largely consistent, although varying in scale, whether a small attached inner city terrace house or a large suburban villa.

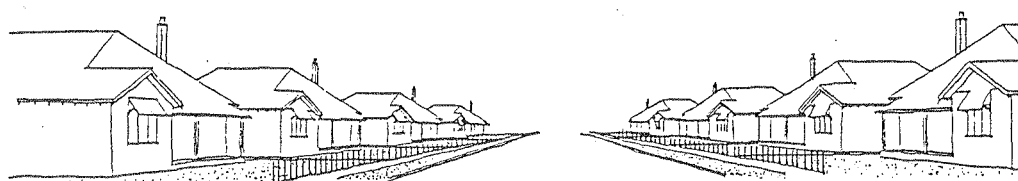
⁴⁶ E. C. Buley, 'Australian life in town and country', as quoted in Archer, op cit., p. 144.
⁴⁷ Freestone, *Model Communities*, op. cit., p. 92.



Inner city terraces



Semi-detached cottages



Detached suburban cottages

Figure 4. As residential development spread from the inner city to the suburbs, the spatial organisation remained largely consistent.
(Source: Irving, *The History and Design of the Australian House*, p. 89.)

Elements of this spatial organisation included:

- a) an identifiably 'individual' dwelling (even with attached housing) with an entrance which was clearly visible from the street;
- b) a semi-private front yard which provided a transitional space between the public domain (the street) and the private house. This varied in scale from a generous formal front yard through to an enclosed verandah;
- c) a fenced back yard which provided privacy from neighbours and created a private area of outdoor space; and
- d) a series of streets, lanes and public open spaces which formed the public domain - the urban framework.

Many of the early apartment buildings, particularly those designed by architects for the Sydney Harbour Trust and Sydney City Council, adopted a variation of this spatial organisation. They were often designed as a 'big' house with:

- a) the building clearly facing the street;
- b) a major entrance or a number of individual entrances reached by means of a semi-private front yard;
- c) the incorporation of private or semi-private open space for ground floor apartments; and
- d) the provision of generous balconies and roof terraces for above ground apartments.

Figure 5 documents the elements and consistency of this spatial organisation through a range of housing types. For example, although the scale of external spaces found around the terrace house varied from those associated with the detached cottage, the types and functions of these spaces were similar. Communal spaces were rarely provided, with even apartment buildings restricting common areas to functional uses such as drying areas. Instead, public spaces, in the form of parks and the street, were designated as the places for social interaction. These spaces were well defined and independent from the housing and together formed the public domain.

Although this spatial organisation was quite simple, it was extremely important. It clearly delineated the territory of the housing, ensured domestic privacy and established a consistent spatial relationship between the housing and the broader community. Further, the popularity and uniformity of this spatial organisation established it as a tradition in Australian housing; hence the use of the term traditional in this thesis to describe the spatial organisation found in Australian housing prior to World War II.

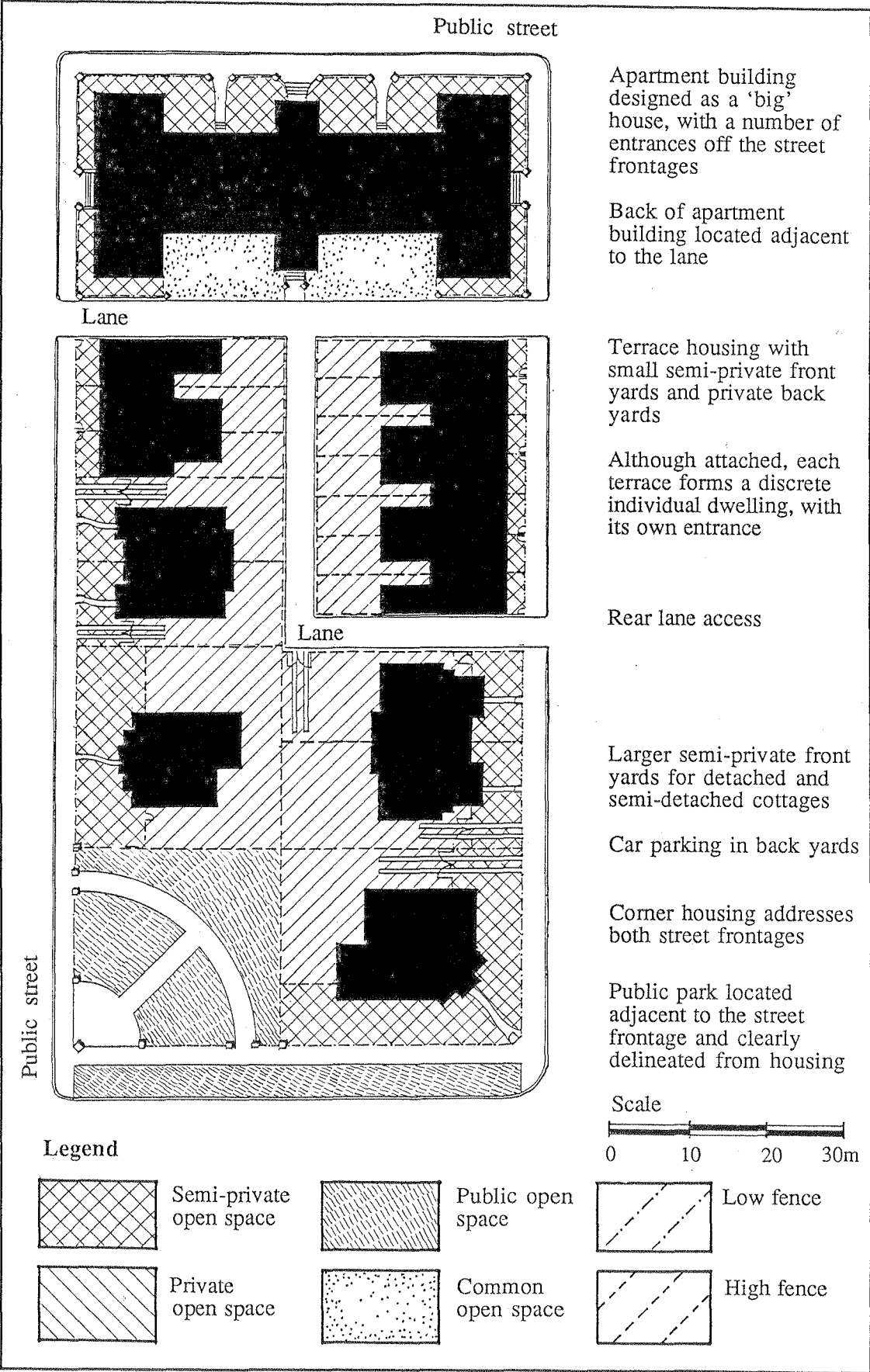


Figure 5. The traditional spatial organisation which characterised Australian housing prior to World War II.

* * *

Although the development of Australian housing was predominantly speculator driven, the intentions of the early colonial administrators were achieved. By the beginning of World War II, all Australian cities had extended to include substantial suburbs of dispersed form with the detached house symbolising the ideal home. Australians had not only developed a particular housing preference, they had also developed a specific lifestyle ideal.

Even though the majority of Australians lived in urban centres, the urban dweller could still have the best of both worlds; - live in the city, yet have residential qualities such as the private back yard, an individual house which could be privately owned, a front garden and ample fresh air and sunlight. These qualities were often unattainable in other western cities which contained far denser housing forms. In contrast, Australian housing prior to the Great Depression was characterised by a certain level of equality, with much of the population enjoying access to a high standard of living.

A major element in establishing this equality was the spatial organisation which created a consistency within housing, regardless of socio-economic status or housing density. It was evident in the majority of housing types including detached villas, semi-detached cottages, terrace housing and even in some flat and apartment buildings. It was this spatial organisation which established a uniform relationship between the private home and the public street and also created open space, privacy and access to fresh air and sunlight.

Although Australian housing originated from English examples, this spatial organisation soon became characteristic of Australian housing. For example, a visiting British writer in 1905 reported that:

A garden in front of the cottage and a plot of ground of respectable dimensions behind it belong as a matter of course to the Australian workman's dwelling. ⁴⁸

This organisation of housing, private space and the public domain created a high level of independence and autonomy for each house. The concept of home was strictly private. Unlike situations overseas, there were few examples of crowded tenements in Australian cities. Home was always considered individual, with even many early flat and apartment buildings providing a high level of privacy and autonomy for residents.

CHAPTER II

MODERNISM AND HOUSING

By the end of the nineteenth century, European and American cities were in varying states of decline. The Industrial Revolution had created unprecedented urban migration with rural workers moving to the cities in search of employment. Physically, this mass migration together with natural increases in population created vast housing shortages, unprecedented overcrowding and poor living conditions for the working class. At the turn of the century, some parts of New York City were measured at 523 people per acre, with areas of Paris and London peaking at 434 and 365 respectively.¹

These extreme housing conditions, with little access to sunlight, fresh air or open space, created fear and paranoia within the middle classes. The city was perceived as:

- a) a source of multiple social evils;
- b) a possible cause of biological decline; and
- c) a potential breeding ground for political insurrection.²

Many called for reform, directly attributing the failings of the Industrial City to the inequalities established by the capitalist system. Few, however, developed both physical and social alternatives to the Industrial City. Englishman Robert Owen was among the first to suggest a new urban environment which also reflected a new social organisation. Tony Garnier, an early twentieth century French architect, developed the most resolved plan, designing an entire socialist city - Cite Industrielle. Both concepts focused on the provision of equitable living standards and, most importantly, common ownership of land. No longer would society be divided into distinct classes. Instead, common ownership of land would help re-establish the communities destroyed by the Industrial Revolution.

These Utopian ideas proved very influential in both Europe and America. The desire to create a more equitable society through the design of 'ideal' communities proved a catalyst for early twentieth century Modernism. The socialist ideology, however, was not adopted with Modernism instead viewing 'the relationship between architecture and society as transitive : change the architecture and society will be forced to follow the program of social change that the architecture embodies'.³

¹ Adna Ferris Webber, 'The growth of cities in the nineteenth century : a study in statistics', (New York : Cornell University Press, 1967), cited Peter G. Rowe, *Modernity and Housing*, (Cambridge, Mass : MIT Press, 1993), p. 50.

² Peter Hall, *Cities of Tomorrow : An Intellectual History of Urban Planning and Design in the Twentieth Century*, (Oxford, UK : Blackwell, 1988), p. 33.

³ James Holston, *The Modernist City : An Anthropological Critique of Brasilia*, (Chicago : The University of Chicago Press, 1989), p. 56.

Integral to this ideology was a strategy of defamiliarisation, a concept which first emerged in the avant-garde art movements in the early twentieth century.⁴ Defamiliarisation involved the development of a new urban order which would counteract previous expectations about urban life.⁵ It intentionally ignored existing social or urban conventions, instead relying on the forces of architecture and planning to address the social injustices of the city.

This theory had far reaching implications for the design of housing, particularly in regard to spatial organisation. It resulted in new configurations for organising housing, pedestrian and vehicular circulation and open space in order to:

- a) provide an equitable standard of living for all residents, regardless of class;
- b) create new collective relationships between residents;
- c) utilise new technological advancements such as reinforced concrete;
- d) improve health standards in housing through the provision of maximum sunlight, fresh air and open space; and
- e) reform the perceived chaos and overcrowding which characterised the capitalist city.

Three influential spatial concepts developed during the course of the twentieth century: Neo-Radburn, High Rise in Parkland and Low Rise Urban.*

These three concepts, which will be explained fully during the course of this chapter, inspired the spatial organisation of much of the urban housing constructed between 1920 and 1980. The concepts received international acceptance, regardless of local conditions, traditional form or culture. Over this sixty year period the Utopian ideology which had been the catalyst for the development of these principles was largely forgotten, and the spatial concepts simply became regarded as 'styles' of urban housing design.

EARLY UTOPIAN IDEAS

Utopian housing ideology emerged as a direct response to the extreme housing conditions found in many nineteenth century western cities. In most industrial cities, a common form of housing was some variation of the tenement. Generally, a tenement consisted of a number of rooms available for rent by the working class. Tenements were squeezed into the regular city blocks, often arranged in the narrow open space found between alleys.⁶ The standard of this type of housing varied considerably, with London and New

⁴ ibid., p. 53.

⁵ ibid., p. 55.

* It was necessary during the course of this study to develop these terms as there was no existing terminology which adequately described spatial organisation in housing.

⁶ Rowe, op. cit., p. 52.

York recording some of the worst conditions. In New York, tenements were frequently four to five stories high and often constructed in timber. Sanitary facilities were scarce as were adequate ventilation and light. For example, one building inspector described Gotham Court, a New York railway tenement, in the following manner:

Twelve doors opened on to the wider of the two alleys, and each door provided entry for ten families living in each section of the building - two families to a floor in identical 2 room apartments, with a main room about 15 x 9 1/2 feet and a bedroom about 15 x 8 1/2 feet. The structure housed around 500 people without provision for plumbing or heat. Ten years later a row of privies had been placed in the basement, but by then more than 800 people had crowded into the structure.⁷

The following figure traces the development of the New York tenement from 1850 to the turn of the century.

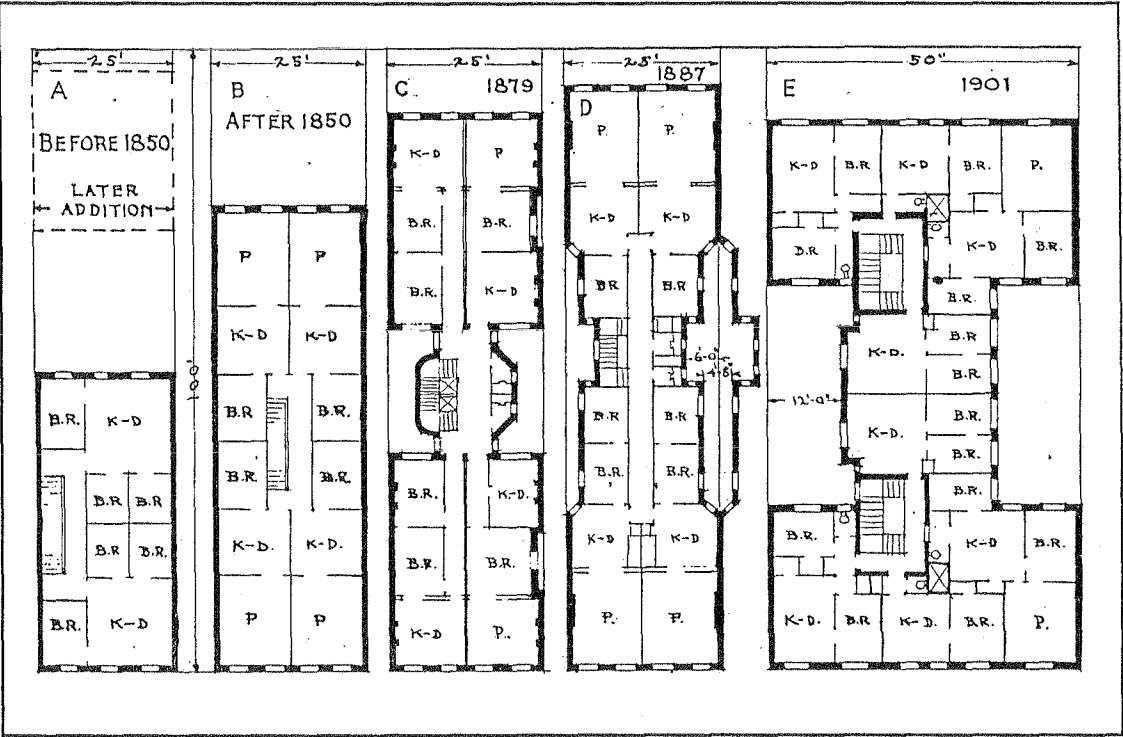


Figure 6. Evolution of the New York tenement
(Source: Grey, *Housing and Citizenship*, p. 21.)

Overcrowded tenements, together with the exploitation of the working class in factories, prompted a number of ideologies aimed at social reform. Most focused on political upheaval with socialism replacing the existing capitalist system. A number developed alternative physical environments in addition to political reform, hoping to re-establish the sense of community which was destroyed by the Industrial Revolution. Integral to these ideas were socialist theories regarding land ownership and social structure. Two such influential models were developed by Robert Owen in the early nineteenth century and Tony Garnier in the early twentieth century.

⁷ Glaab & Brown, *A History of Urban America*, (New York : Macmillan, 1967), p. 161, as quoted in Rowe, op. cit., p. 53.

Robert Owen

Owen was one of the first to develop a comprehensive model for a community which offered an alternative to both the city and the village. In 1817 he presented his idea for 'Villages of Unity and Co-operation' which involved the construction of villages for 500 to 1500 people.⁸ As illustrated in Figure 7, the housing was arranged around squares, which were then surrounded by 1000 to 1500 acres of open space. These villages were designed to be self contained economic units.

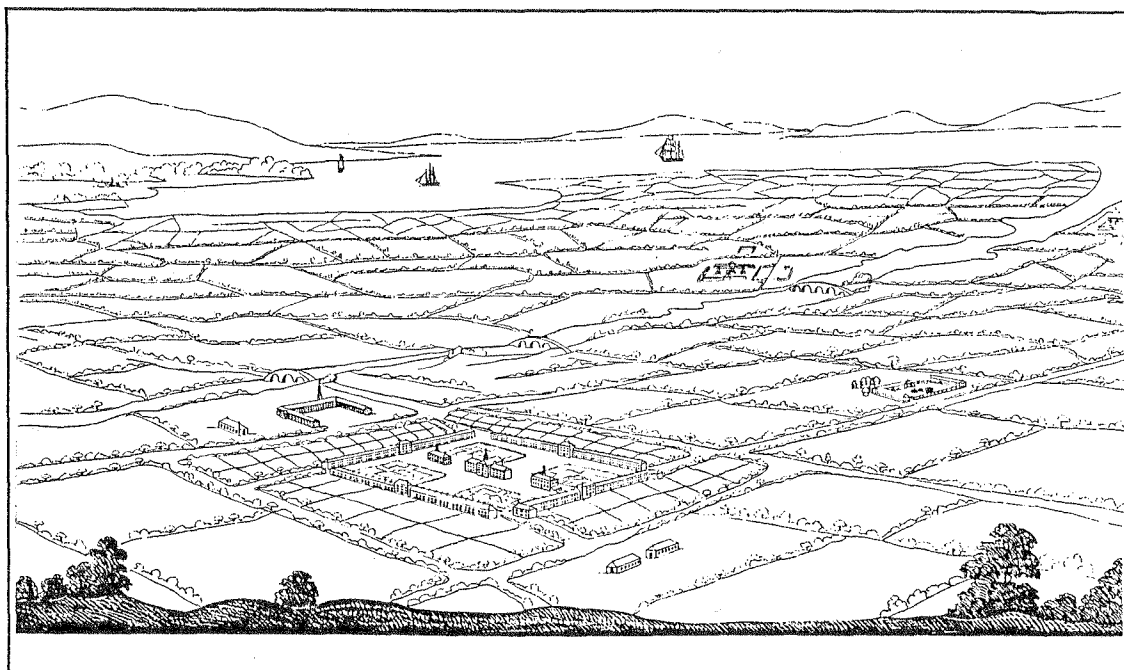


Figure 7. Owen's plan for Villages of Unity and Co-operation
(Source: Choay, *The Modern City*, Fig. 55.)

The housing for each village focused on a large square surrounded on three sides by lodging houses with the fourth containing dormitories for children over the age of three.⁹ The living rooms were orientated towards the community square with the bedrooms located adjacent to the open space. In the centre of the square were three public buildings which contained kitchens, schools, lecture rooms, library, infirmary, accommodation for visitors and a place of worship. Gardens surrounded the housing and public buildings with industry and agriculture located in the outer ring.

Owen's ideas were unique. He was one of the earliest to advocate the elimination of individual family life in preference for communal living. He believed in the abolition of the traditional forms and functions of both the family house and the family structure. His housing and physical urban form strongly reflect this new social organisation. The concept enabled everyone to have equal access to communal facilities, fresh air and open space. It was a design based upon an egalitarian vision - the pursuit of an 'ideal' community.

⁸ Geoffrey Spyer, *Architect and Community : Environmental Design in an Urban Society*, (London : Owen, 1971), p. 27.

⁹ David Mackay, *Multiple Family Housing : From Aggregation to Intergration*, (New York : Architectural Book Pub. Co., 1977), p. 7.

Tony Garnier

Garnier was influenced by both the socialist philosophy emerging in France in the late nineteenth century and also new technological advancements such as reinforced concrete.¹⁰ Both are evident in his plan for Cite Industrielle which he exhibited in Paris in 1904. His city for 35,000 was a socialist Utopian vision. It contained no walls, private property, police stations, churches or prisons. Instead, Garnier had a personal commitment to:

...the establishment of a city where one realises that work is human law, and that there is enough of the ideal in the cult of beauty and order to render life splendid.¹¹

In accordance with his early education at the Ecole des Beaux Arts, Garnier developed a comprehensive and varied housing typology for his new city. These house types were based on strict standards for light, hygiene, ventilation and open space. The houses were designed entirely of concrete and sited along tree lined streets of varying width. Housing was limited to two storeys and planned as a 'great park, without any wall or enclosure limiting the terrain'.¹² This design philosophy is evident in Garnier's plan and perspective of the residential district which are shown in Figures 8 and 9.

Garnier built on only half the total surface area, with the remainder set aside as public park. He was adamant that this new urban environment with repetitive housing units would not be dull:

Because of these rules that allow the use of only part of the grounds and prohibit complete closure, and also because the land is contoured for drainage, there is no need to fear monotonous design.¹³

Garnier viewed the city as a civilising force.¹⁴ His design attempted to address the social inequalities of the late nineteenth century by proposing an alternative urban environment with standardised housing units and large areas of free flowing open space. Unlike Owen, he did not adopt communal living arrangements, instead focusing on the provision of equitable living conditions.

These models proposed by Owen and Garnier were based on their own personal vision for an ideal community - both physically and socially. Each:

- a) attempted to address the social inequalities found in the Industrial City through a more equitable distribution of space. Previously, only the wealthy had access to spacious housing, fresh air and open space;

¹⁰ Kenneth Frampton, *Modern Architecture : A Critical History*, 3rd edn, (London : Thames & Hudson, 1992) pp. 100-101.

¹¹ Kriti Siderakis, Introduction in Tony Garnier, *Une Cite Industrielle*, trans. Marguerite E. McGoldrick, (New York : Princeton Architectural Press, 1989), p. 7.

¹² *ibid.*, p. 9.

¹³ Tony Garnier, *Une Cite Industrielle*, *op. cit.*, p. 11.

¹⁴ Frampton, *op. cit.*, pp. 100-102.

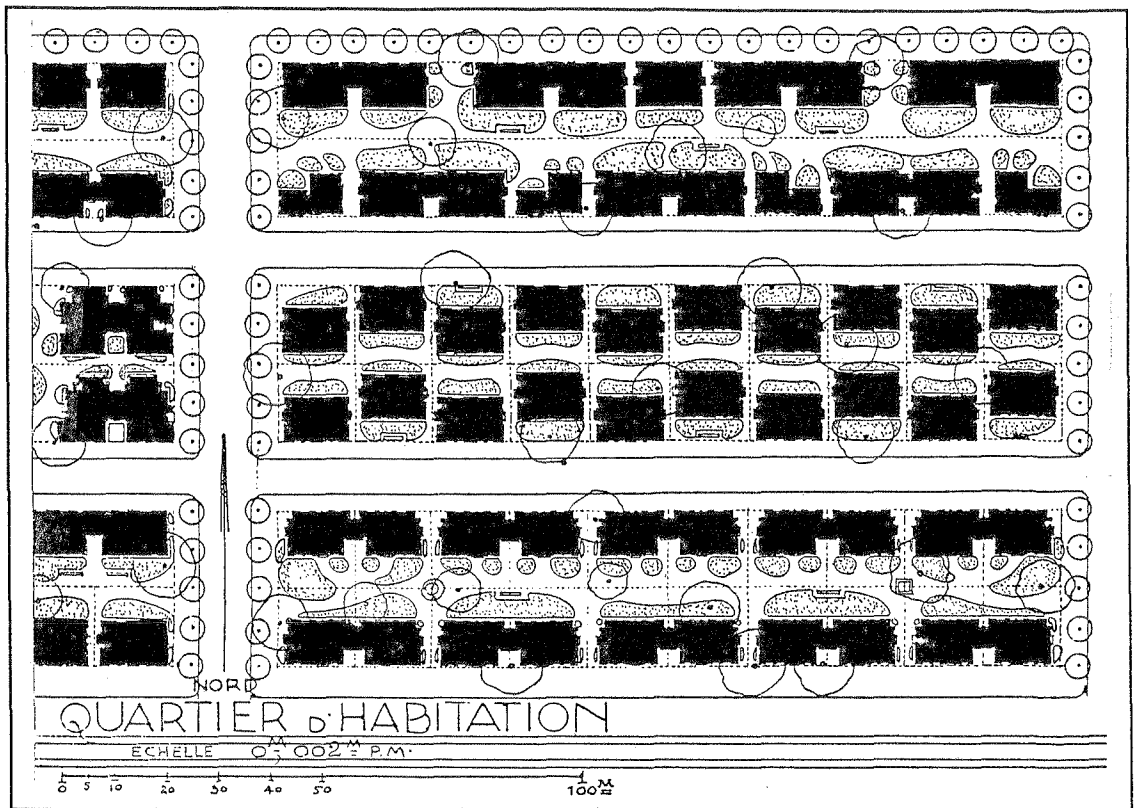


Figure 8. Plan of the residential quarter for Cite Industrielle
(Source: Garnier, *Une Cite Industrielle*, p. 101.)

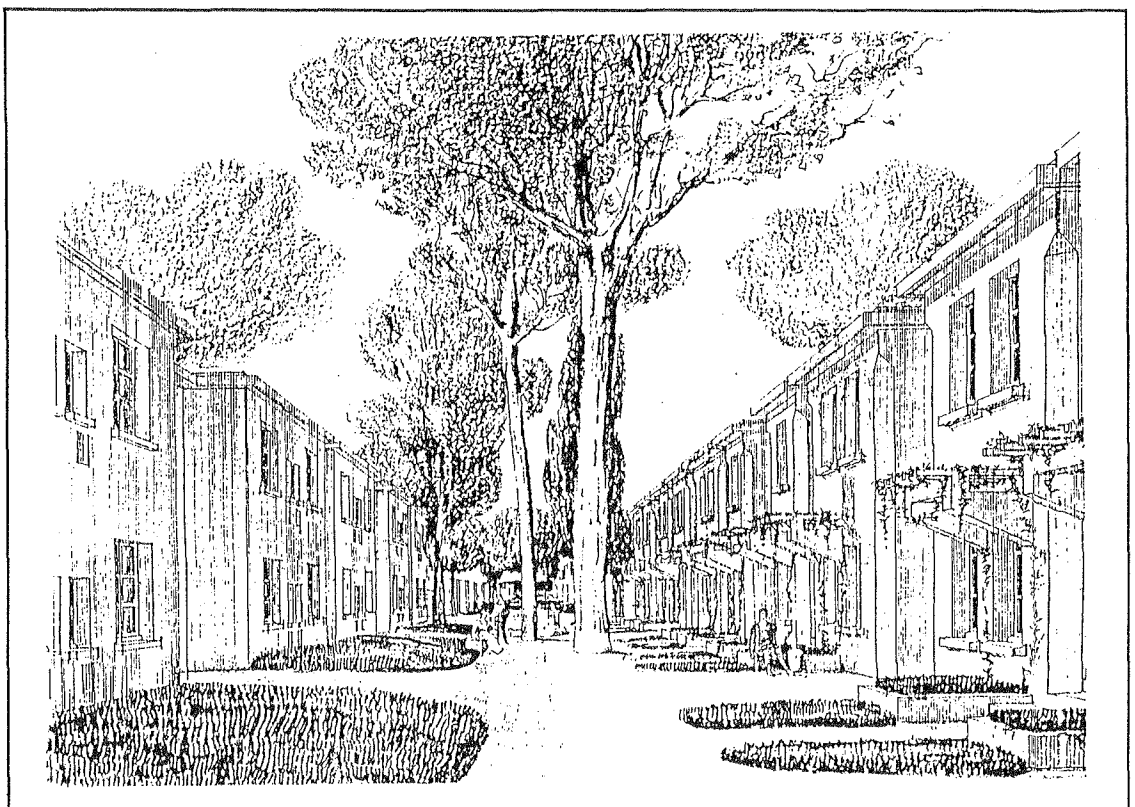


Figure 9. Perspective of the residential quarter, note the absence of any spatial enclosure around the housing
(Source: Garnier, *Une Cite Industrielle*, p. 107.)

- b) proposed equal ownership of land for all members of the community, whether agricultural land or public parkland; and
- c) believed that the equitable provision of space, together with housing reform, would help re-establish the sense of community which was lost in the Industrial City.

These models, however, remained strictly Utopian. Both proposals required a major social and political shift towards socialism, for without common ownership of land, neither concept could be realised.

INFLUENTIAL MODERNIST CONCEPTS

In spite of their socialist content, Utopian housing theories provided a catalyst for the development of Modernist housing concepts. Like Owen and Garnier, early Modernism was particularly concerned with the social inequality found in the capitalist city. In response, a strategy of defamiliarisation was developed which proposed a range of new urban types and spatial organisations appropriate for a society of the future. In his work, *The Modernist City*, James Holston explains that Modernism aimed to:

...impose a totally planned environment, and therefore a totality of perceptions, in which the targeted social distinctions would no longer be discerned simply because they would no longer be a focus of architectural design. Thus by rendering them architecturally illegible, modernism sought to render them socially irrelevant.¹⁵

In terms of housing, this strategy was essentially a form of environmental determinism; that is, the built environment determines behavioural patterns, therefore changing the physical form of housing will produce changes in the way that people live and relate to each other. Defamiliarisation also excused designers from any consideration of cultural or behavioural conventions, thus allowing total freedom for design experimentation.

Three major aspects of traditional housing were targeted for reform.

The public street was condemned because it physically represented the inequality found in capitalist cities. This inequality was evident in the overcrowded unsanitary buildings which lined the streets, and also in the decadent ornament which characterised the buildings of the wealthier classes.¹⁶ Through its strategy of defamiliarisation, Modernism proposed an alternative urban form which would instead be based on pure form and space, rather than the expression of private and public values. Buildings were to be perceived as sculptural elements in open space, with no distinction between public or private buildings, nor social status of residents.

The super block was developed as an alternative to the street. This concept centred upon the amalgamation of land into large development parcels. Roads were limited to the perimeter of the land, allowing the residential layout to be dictated by the design of dwelling units and their organisation

¹⁵ Holston, op. cit., p. 56.

¹⁶ Holston, op. cit., p. 133.

rather than by the standard city block.¹⁷ This allowed the development of new spatial organisations which:

- a) maximised solar access and ventilation into dwellings;
- b) minimised the impact of roads and cars on housing and pedestrians;
- c) created new social relationships and collective associations between residents; and
- d) created new configurations and types of open space in housing.

The spatial organisation of housing was also revised in order to create new collective relationships between residents. A major emphasis was placed on the design of complete residential environments where the individual dwelling was incorporated into the total housing mass. Rather than be identifiable as an individual home, the dwelling was to be seen only as part of the greater whole - a community.¹⁸

In addition, Modernism wished to develop collective associations in housing to establish a sense of community among residents. In order to achieve this, it was necessary to take attributes from the individual house and consolidate them in communal facilities. This was most evident in the design of open space, where private open space was often incorporated into communal open space in an attempt to facilitate social interaction and to maximise the potential of open space.

The concepts of standardisation and rationalisation were integral to the new housing ideology. New construction techniques and the ability to mass produce housing allowed the opportunity to standardise dwellings. This in turn created possibilities for developing a minimum standard of living. This premise formed a major part of the *Congres Internationaux d'Architecture Moderne* (CIAM) 1928 declaration, which stated that:

The most efficient method of production is that which arises from rationalisation and standardisation...they expect from the consumer...a revision of his demands in the direction of a readjustment to the new conditions of social life. Such a revision will be manifested in the reduction of certain individual needs, henceforth devoid of real justification; the benefits of this reduction will foster the maximum satisfaction of the needs of the greatest number, which are at present restricted.¹⁹

This statement not only proposed the rationalisation of dwellings, but also the rationalisation of the needs of the individual as a means of developing a higher standard of living for the broader masses.

¹⁷ Rowe, op. cit., p. 202.

¹⁸ Holston, op. cit., p. 167.

¹⁹ La Sarrez Declaration *Congres Internationaux d'Architecture Moderne*, 1928, as quoted by Frampton, op. cit., p. 269.

Together, these core philosophies led to new directions in housing design, particularly in regard to spatial organisation. Three influential spatial models emerged:

Neo-Radburn, an interpretation of the Radburn housing development designed by Clarence Stein and Henry Wright in the 1920s;

High Rise in Parkland, which was first developed in Europe during the 1920s; and

Low Rise Urban, a low rise, high density model which developed in the 1960s in response to the failings of high rise housing.

NEO-RADBURN

The Radburn scheme developed by Clarence Stein and Henry Wright is commonly regarded as a Modernist concept. The original scheme, however, must be considered a hybrid model, as it combined many aspects of traditional housing with the new concepts of the super block and the neighbourhood unit. The design for Radburn produced a middle class residential environment, incorporating detached and semi-detached housing in a peaceful parkland setting. It did not share the Modernist agenda for the standardisation of dwelling units, nor was the concept particularly anti-street. Later interpretations of the Radburn concept, though, tend to incorporate far more Modernist spatial characteristics. These schemes, which began to emerge in the late 1950s, often bear little resemblance to the original Radburn design and are therefore described as Neo-Radburn spatial organisations.

The Original Radburn

Clarence Stein was an American architect who was particularly concerned about the negative influences of the city on the individual. Stein, together with planner Henry Wright, was determined to develop America's first Garden City. They wanted to co-ordinate a whole community:

...every detail down to the last house and the view from the windows must be conceived, planned and built as a related part of a great setting for convenient, wholesome, and beautiful contemporary living and working.²⁰

To achieve this design objective, Stein and Wright advocated the release of housing from the grid subdivision and the establishment of new housing configurations within the framework of a super block. In 1928, Stein and his design team attempted to explore the ideas of Garden City planning. The City Housing Corporation purchased two square miles of rural land in the borough of Fairlawn, New Jersey. As no official road plan or zoning ordinance was in place, Stein and Wright were given total planning freedom.²¹

²⁰ Clarence S. Stein, *Towards New Towns For America*, rev. edn, (Cambridge, Mass : MIT Press, 1966), p. 225.

²¹ *ibid.*, p. 39.

The amount of the land made it impossible to design a complete Garden City. Instead Stein and Wright elected to develop a number of super blocks which also functioned as neighbourhood units. Stein was influenced by the work of Clarence Perry, an American community planner who had developed the concept of the 'neighbourhood unit'.²² This unit became the basis for grouping housing together with necessary facilities such as schools, playgrounds, shops and open space. It aimed to produce a community that was large enough to support a range of services and facilities, but small enough for residents to develop a sense of belonging.²³

Stein and Wright designed three neighbourhood blocks, but the financial collapse of the City Housing Corporation in 1933 resulted in only two being partially completed.²⁴ Nevertheless the design was regarded by many as a success, particularly because of innovative design features such as:

- a) the development of super blocks which became the spatial unit for neighbourhood planning;
- b) the design of cul-de-sacs, rather than roads, near housing as a means of creating a quieter and safer residential environment;
- c) separation of vehicular and pedestrians circulation in order to create safe environments for pedestrians and children;
- d) a continuous park system which formed the 'backbone' of the community; and
- e) the location of schools and other community facilities at the centre of the super block.²⁵

These features can be seen in Stein and Wright's plan for Radburn which is illustrated in Figure 10.

Although these design principles produced an original residential environment, Stein and Wright still retained many aspects of traditional American housing. They were not concerned with the standardisation of housing, instead retaining a mix of detached, semi-detached and garden apartments. Nor was their design particularly anti-street. They instead proposed a series of cul-de-sacs which essentially had many social and physical qualities of the street, but with reduced traffic flow. Housing was designed to address both the cul-de-sac and the central spine of common open space.

This double frontage was achieved through the design of two or sometimes three entrances into the housing. Living rooms, verandahs, bedrooms and one entrance were designed to address the open space with the kitchen, garage and another entrance facing the cul-de-sac. This spatial organisation is

²² *ibid.*, p. 123.

²³ Rowe, *op. cit.*, pp. 200-201.

²⁴ Rowe, *op. cit.*, p. 195.

²⁵ Stein, *op. cit.*, p. 41.

explained in detail in Figure 11. It represents a major modification of the traditional spatial configuration which generally identified a clear front and back to housing. Stein and Wright, however, recognised that people could approach the housing either from the pedestrian walkway or the cul-de-sac, and modified their housing designs accordingly.

Henry Wright cited the origins of the Radburn concept in the work of Garden city planner, Raymond Unwin. However, he also described a visit to Ireland in 1902, which provided additional inspiration:

I passed through an archway in a blank wall on the street into a beautiful villa fronting upon a spacious interior garden. That archway was a passage to new ideas which have struggled up through the ensuing years! I have learned that the comforts and privacy of private life are not to be found in the detached dwelling, but rather in a house that judiciously relates living space, the open space in turn being capable of enjoyment by many as well as by a few.²⁶

As suggested in the above passage, Stein and Wright did not design Radburn in accordance to Modernist criteria for housing. Certainly, the use of Perry's neighbourhood unit was derived from the new planning ideology as was the concept of the super block. The resultant housing, though, intentionally retained many of the qualities found in traditional American housing, both socially and physically.

In the words of Stein, the design for Radburn 'sought ways of bringing peaceful life in spacious green surroundings to ordinary people in this mechanical age'.²⁷ In order to minimise the impact of the car, Stein and Wright proposed major modifications to pedestrian and vehicular circulation through the development of super blocks. These proposals, however, did not incorporate the ideology of standardisation and rationalisation. It is for this reason that the original Radburn must be considered a transitional spatial model, incorporating elements of both Modernist and traditional spatial organisation.

The Emergence of a Neo-Radburn

The work of Stein and Wright was extremely influential in the design and planning of housing. Their application of the neighbourhood unit became a standard planning tool for the design of new communities. Radburn also demonstrated the new design opportunities afforded by the super block. One supporter described Radburn as:

...the first tangible product of a new urban science...that seeks to make the places of a man's habitation and industry fit the healthy requirements of his daily life.²⁸

²⁶ Henry Wright, *Rehousing Urban America*, (New York : Columbia University Press, 1935), as quoted in Henry M. Wright, 'Radburn Revisited', in *Ekistics*, March 1972, p. 201.

²⁷ Stein, op. cit., p. 226.

²⁸ Tracey B. Augur, 'Radburn - The Challenge of a New Town', in *Michigan Municipal Review*, February & March 1931, as quoted in Henry M. Wright, op. cit., p. 199.

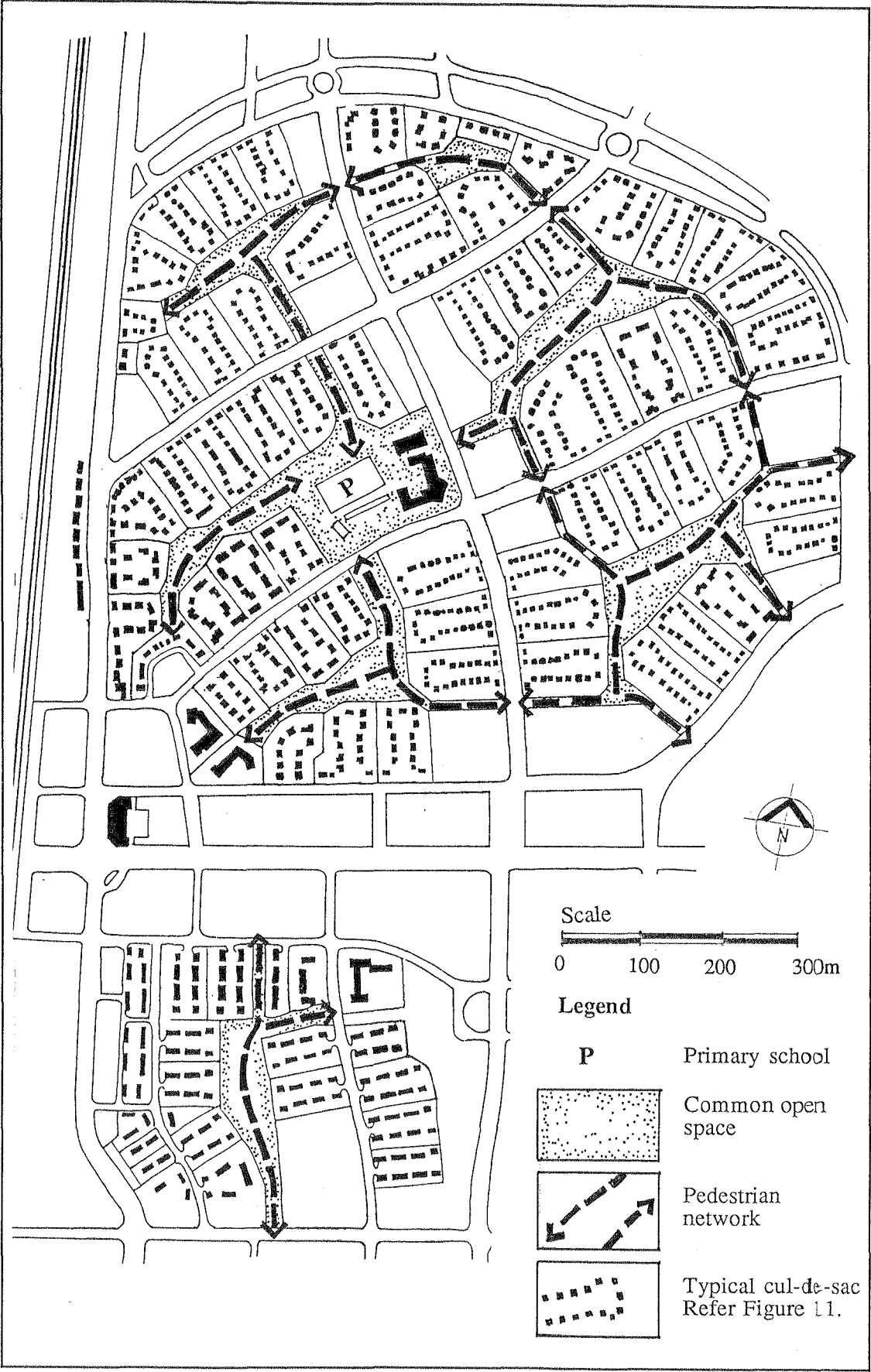


Figure 10. Plan of the residential districts for Radburn, New Jersey, 1929
(Based on plan from Stein, *Towards New Towns for America*, p. 43.)

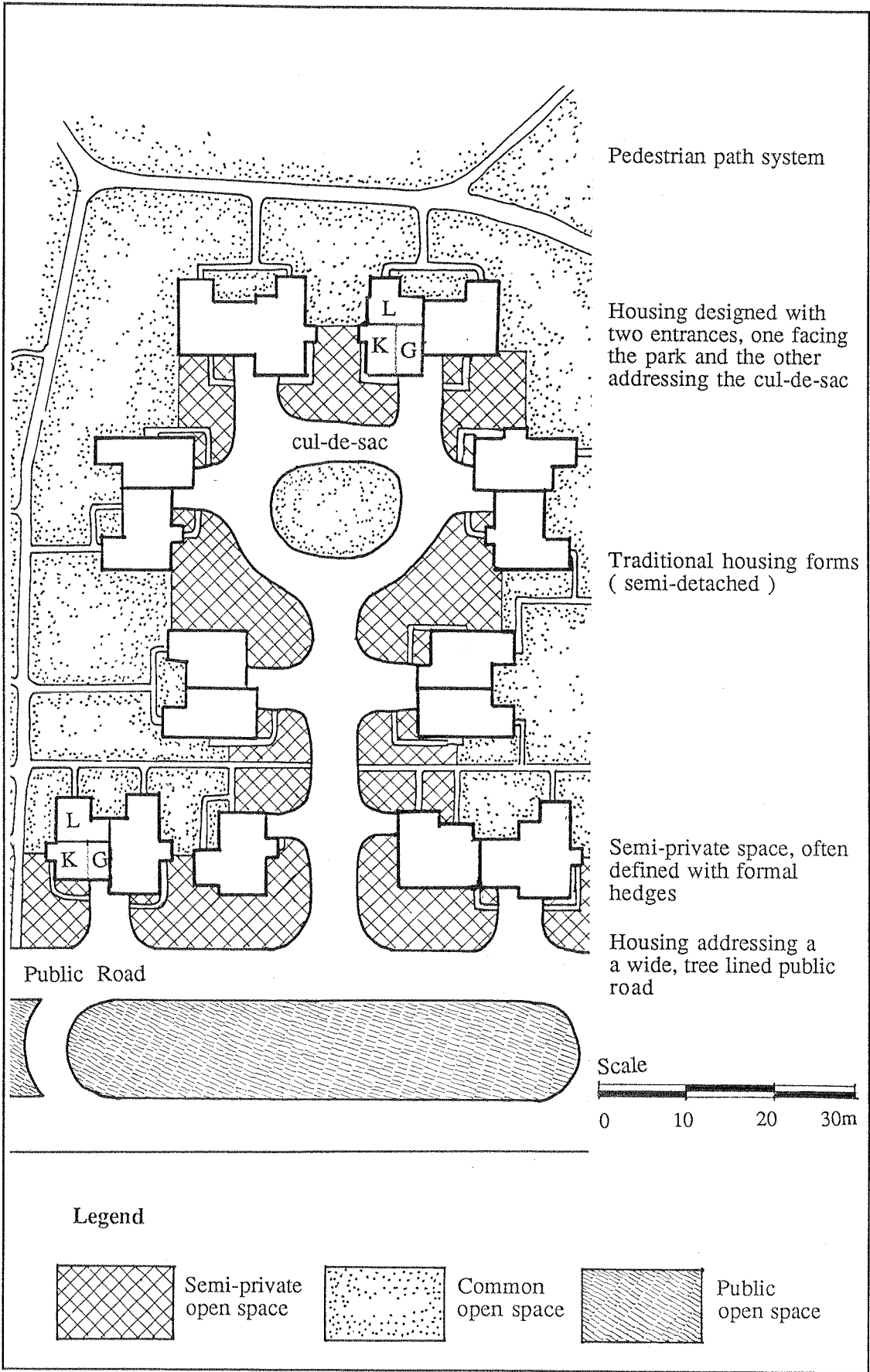


Figure 11. Spatial organisation of a typical Raddburn cul-de-sac
(Based on plan from Stein, *Towards New Towns for America*, p. 56.)

Radburn has been used world wide as the basis for designing housing developments. It is very important to note that many of these interpretations have little in common with the original concept. While they have been designed within the framework of a super block, separate pedestrian and vehicular circulation and attempt to create the spacious green parkland which was a feature of the original Radburn, it is at this point that the resemblance often ceases.

These later versions tend to incorporate far more Modernist housing characteristics than were ever evident at Radburn. These 'Neo-Radburn' schemes, particularly those constructed during the 1960s and 1970s, often included standardised dwelling units, particularly attached town houses, which were designed to be a sculptural mass within a free flowing landscape.

Frequently the housing was designed with little or no private or semi-private open space, with this space instead being incorporated into common open space. In addition, the original Radburn cul-de-sac was often reduced to a functional service way, with the front of the house orientated towards the common open space. Generally, no attempt was made to develop double fronted houses, and as a result the housing appeared to be sited 'back to front'.

Jorn Utzon's 1958 scheme for courtyard housing in Denmark is an excellent example of a Neo-Radburn approach. This design, which is illustrated in Figure 12, involved L shaped houses which were integrated with private gardens. These standardised dwelling units were sited in clusters around functional car courts, with the remainder of the site retained as common open space. The nature of the courtyard house allows it to be sited in a number of different configurations as there is essentially no concept of front and back. Unlike the original Radburn design, these houses were designed with no transitional space between the private domain of the house and the common open space or car courts.

Together these characteristics create a very different residential environment, both physically and socially, to that which was designed in 1928 at Radburn, New Jersey. In the case of the Utzon design, the housing and associated external spaces were sited primarily to facilitate a particular visual aesthetic. Spaces outside the dwelling and private garden were treated primarily as a sylvan landscape, with little regard to their actual function. In addition, the car courts incorporated few of the qualities of the Radburn cul-de-sac, which still operated in many respects as a street.

Interestingly, the Neo-Radburn spatial organisation has proven far more popular among designers than the original Radburn concept. This will be explored further in Chapter III, with particular reference to housing constructed in Australia during the 1960s and 1970s.

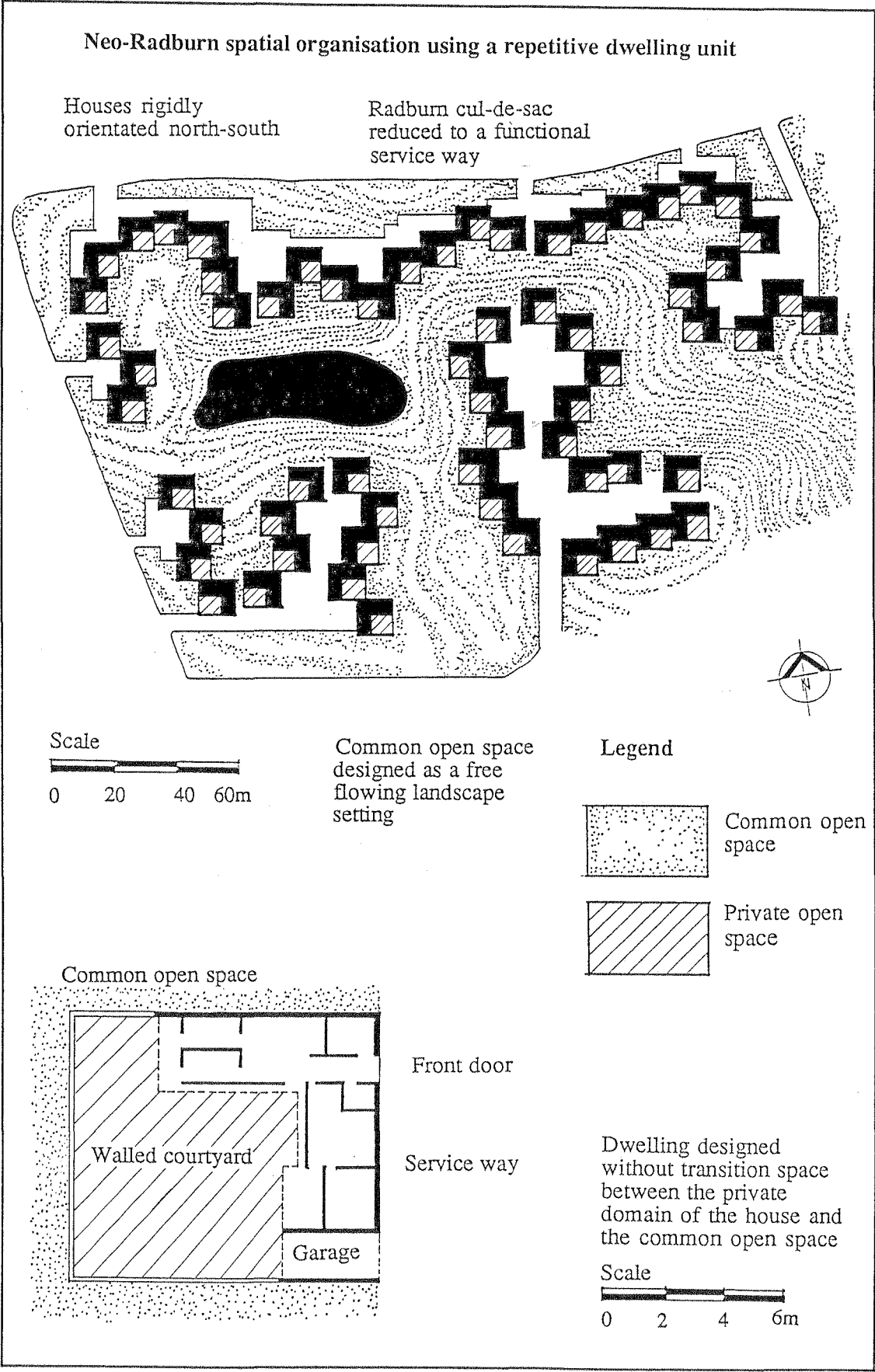


Figure 12. **Jorn Utzon's Kingo houses, 1958, Neo-Radburn**
(Based on plan from Mackay, *Multiple Family Housing*, p. 23.)

HIGH RISE IN PARKLAND

High Rise in Parkland represents the purist and most Utopian expression of Modernist housing ideology. It was the most extreme example of defamiliarisation, with the resultant housing bearing no resemblance to traditional urban form. In many cases, the building footprint was reduced to 15 - 30% of the total site area, with residents having little or no connection to the ground due to high rise living. Socially, the high rise allowed for no visual distinction between individual apartments. As James Holston explains:

In plan, the housing block embodies an attempt to gain in collective spaces what it diminishes in private; in elevation, its gridded glass facade negates the expression of individual status and personality in an attempt to communicate an egalitarian, rational social order.²⁹

Experimentation with high rise began in the early 1920s and continued through to the 1970s. Two major forms were developed - the slab and point blocks, and both were used extensively throughout Europe and America. Le Corbusier was one of the few architects who fully explored the potential of this housing form. He developed his own concept of the neighbourhood unit, Unite d'Habitation, a high rise community.

The Slab Block

Advancements in construction techniques and materials such as reinforced concrete enabled the development of high rise housing which could:

- a) provide maximum sunlight and ventilation into all units;
- b) provide a view for all units; and
- c) release the ground around the building into free flowing open space.

Among the first to study the possibilities of this new housing form were Walter Gropius and Ludwig Hilberseimer.³⁰ During his work in the 1920s, Gropius calculated that the use of 8 -12 storey rectangular slab blocks, strictly orientated north - south, maximised solar access and open space. He stressed that 'the sun should determine the orientation of houses, not the street'.³¹ An example of one of Gropius's studies of building height, density and sunlight can be found in Figure 13.

This theory produced alternating strips of high rise and open space, as regular as 'Zeilen' - the lines on a page of writing.³² Gropius placed major emphasis on the creation of large areas of open space, with buildings only covering 15% of the ground plane. Roads were reduced to service ways in order to

²⁹ Holston, op. cit., p. 173.

³⁰ L. Hilberseimer, 'Entfaltung einer Planungs Idee', 1963, AR 7 - 1959, p. 22, cited Miles Glendinning and Stefan Muthesius, *Tower Block : Modern Public Housing in England, Scotland, Wales and Northern Ireland*, (New Haven : Yale University Press, 1994), p. 39.

³¹ Whittick, *Civic Design*, p. 21, as quoted in Glendinning & Muthesius, *ibid.*,

³² Glendinning & Muthesius, *ibid.*

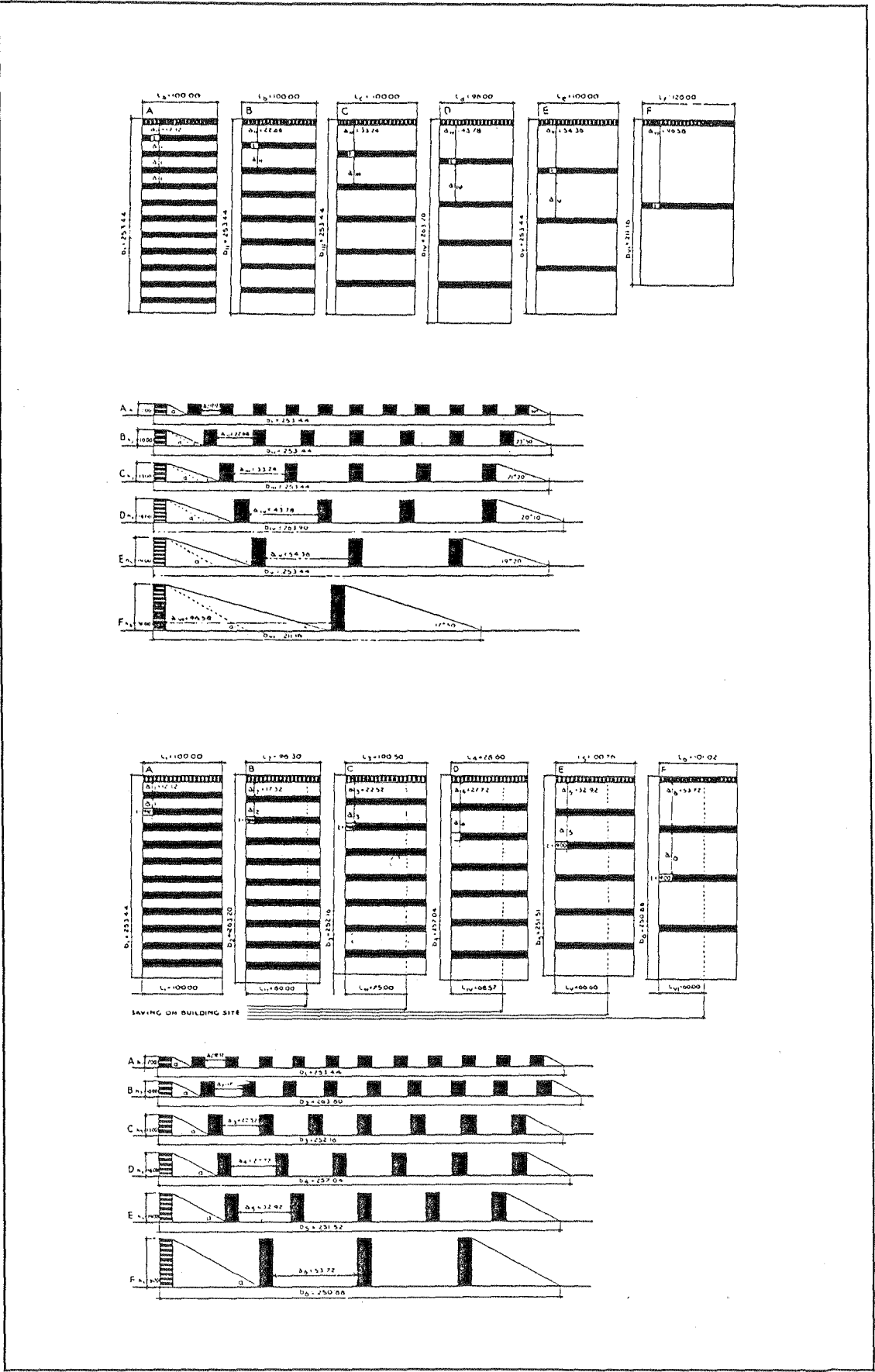


Figure 13. Studies by Walter Gropius of building height, density and sunlight (Source: Glendinning & Muthesius, *Tower Block*, p. 40.)

create large super blocks. The purpose of this external space was to be continuous and green - a city parkland. This was regarded as a far healthier housing environment than that of the crowded inner city.

This early work established a popularity for the slab block, which continued until the 1960s. It demonstrated the possibilities for incorporating large areas of open space into denser housing. How this space was to be used was not considered, however, for its purpose was to simply allow maximum light into buildings and to provide a green setting for both the buildings and the residents. Buildings were designed to be sculptural elements on a plane of open space, with no little distinction between individual dwellings. Similarly, the open space was equally accessible by all residents, with no dwelling having direct access or ownership of external areas. Figure 14 illustrates the interpretation of this rationale into siting principles for slab apartment blocks.

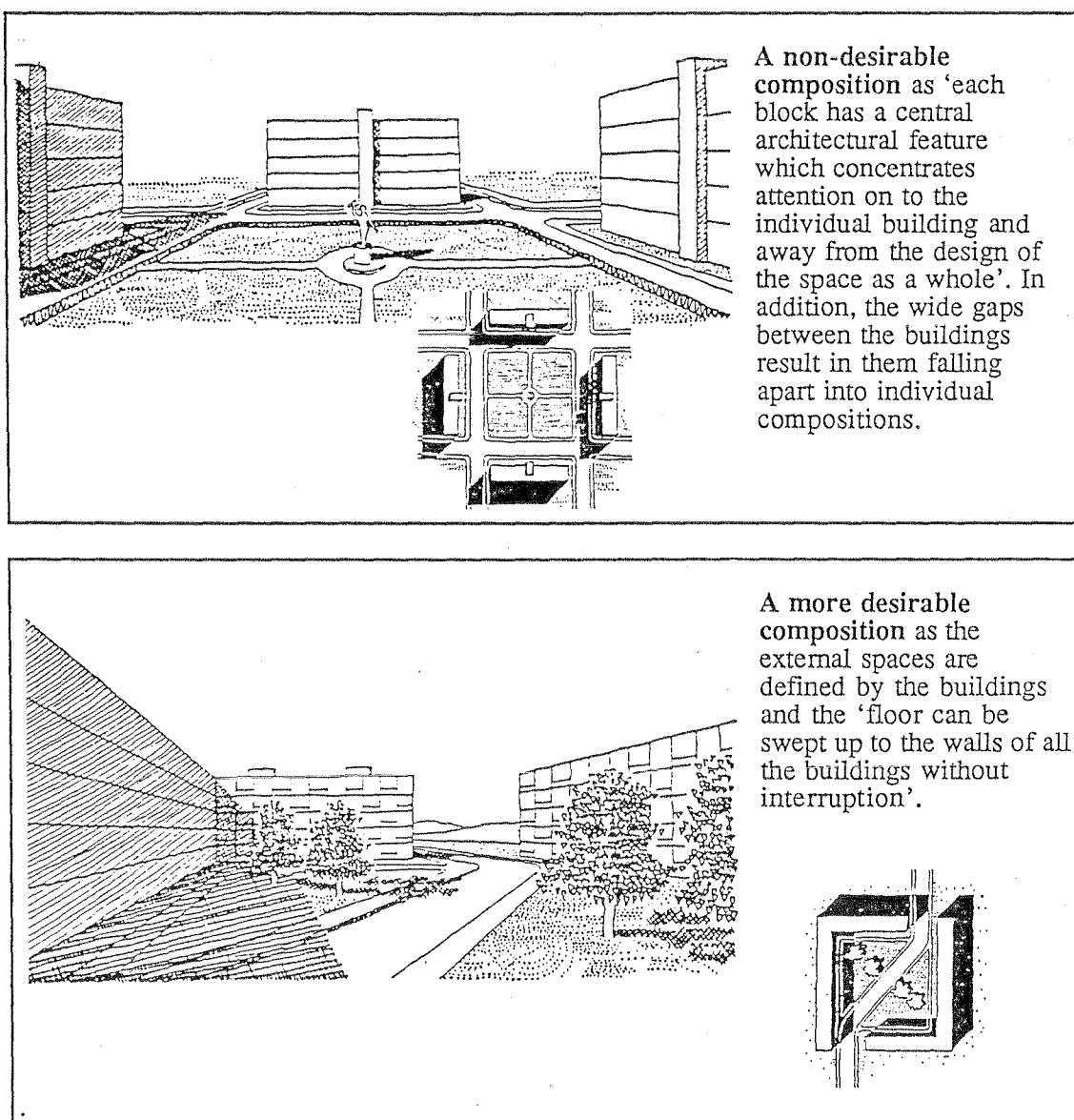


Figure 14. Principles for siting residential blocks as recommended by the British Ministry of Housing and Local Government in 1953
(Source: Ministry of Housing and Local Govt., *Design in Town and Village*, pp. 52-53.)

The Point Block

By the 1950s slab blocks began receiving criticism for their repetitious form.³³ The point block was developed as an alternative and proved successful on smaller sites and sloping land. Internally, the slender form of the point block produced new opportunities for the orientation and organisation of dwelling units. Slab blocks had previously relied on long corridors to link units to a central lift system - a street in the sky. The organisation of the point block allowed for more independent groupings of dwelling units around a central lift or staircase.

Externally, the point block was surrounded by a vast parkland, devoid of any sense of enclosure. The vertical form of the block also resulted in a narrower shadow which moved more quickly than the shadows from slab blocks. Throughout the 1950s and 1960s, point and slab blocks were used together in mixed development, with point blocks often forming land marks in urban areas. The two types of buildings allowed for a visual contrast, providing designers with yet another compositional element.³⁴

Many regarded the relationship between high rise buildings and external spaces as the optimum configuration. High rise could be totally surrounded by open space, with the building essentially having no front or back. The absence of private open space was regarded as an advantage as pointed out by Rolf Jensen in his book *High Density Living*:

Near at hand is the garden, not a demanding "patch" surrounded by fences and needing constant attention, but a large, spacious and well-maintained park-like area giving a unique sense of freedom.³⁵

Jensen also concluded that high rise residential environments were far superior to suburban detached houses where:

...there must be complete dependence on the motor car, and the outlook from the home is too often bound by the fences, and the frequently untidy yards of adjacent houses with illusions of privacy.³⁶

This attitude is similar to the early Modernists who believed that the individual house offered little merit, whereas the design of housing with collective associations, offered far more opportunity both architecturally and socially.

The following examples illustrate two typical design approaches incorporating High Rise in Parkland spatial organisations. The Williamsburg Houses, shown in Figure 15, were constructed in Brooklyn, New York in 1937. The project consisted of over 1,600 dwellings arranged in four storey walk-up apartments. Only 33% of the site was covered by buildings. The high rise scheme, illustrated in Figure 16, was completed in Stockholm during World War II. The design incorporated a number of point block towers, 8 to 10 storeys high, with the remainder of the site being retained as parkland.

³³ JRIBA 2-1946, p. 113., cited Glendinning & Muthesius, op. cit., p. 56.

³⁴ Glendinning & Muthesius, op. cit., pp. 53-54.

³⁵ Rolf Jensen, *High Density Living*, (Great Britain : Leonard Hill, 1966), p. 30.

³⁶ *ibid.*, p. 6.

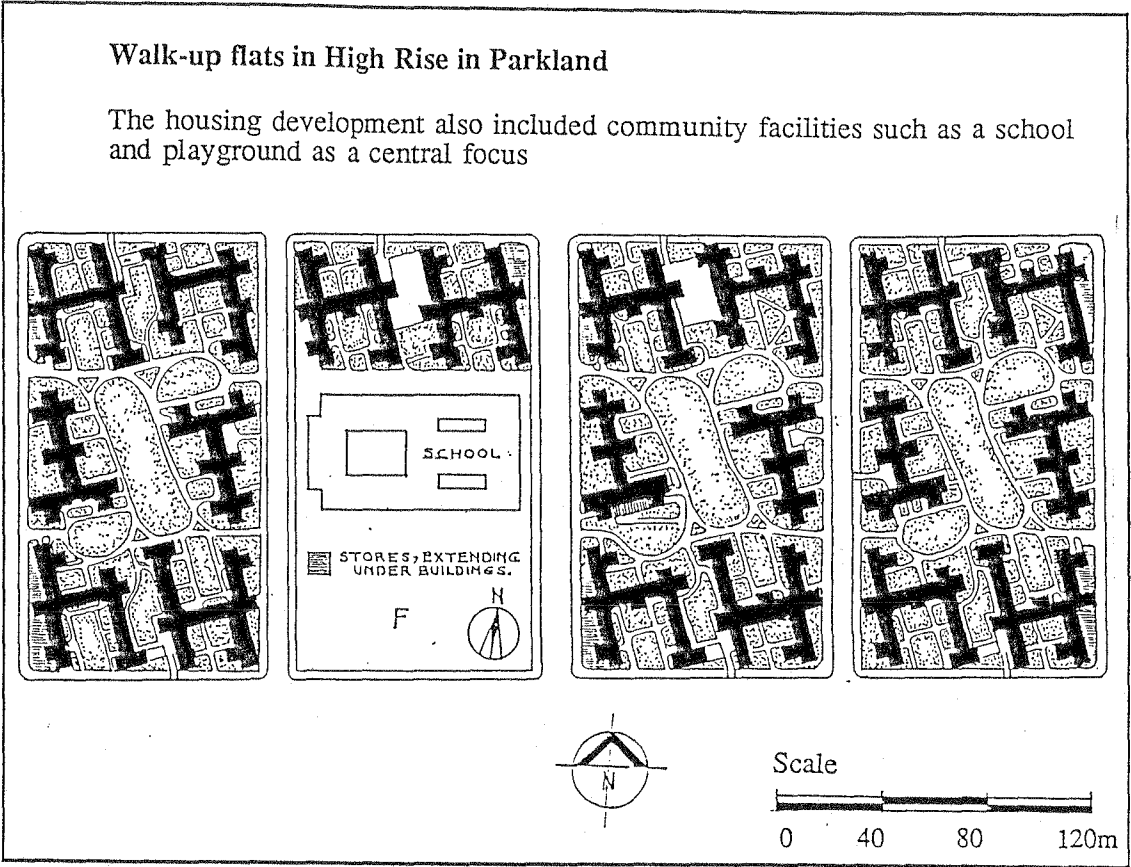


Figure 15. The Williamsburg Houses, 1937, High Rise in Parkland
(Based on plan from Grey, *Housing and Citizenship*, p. 25.)

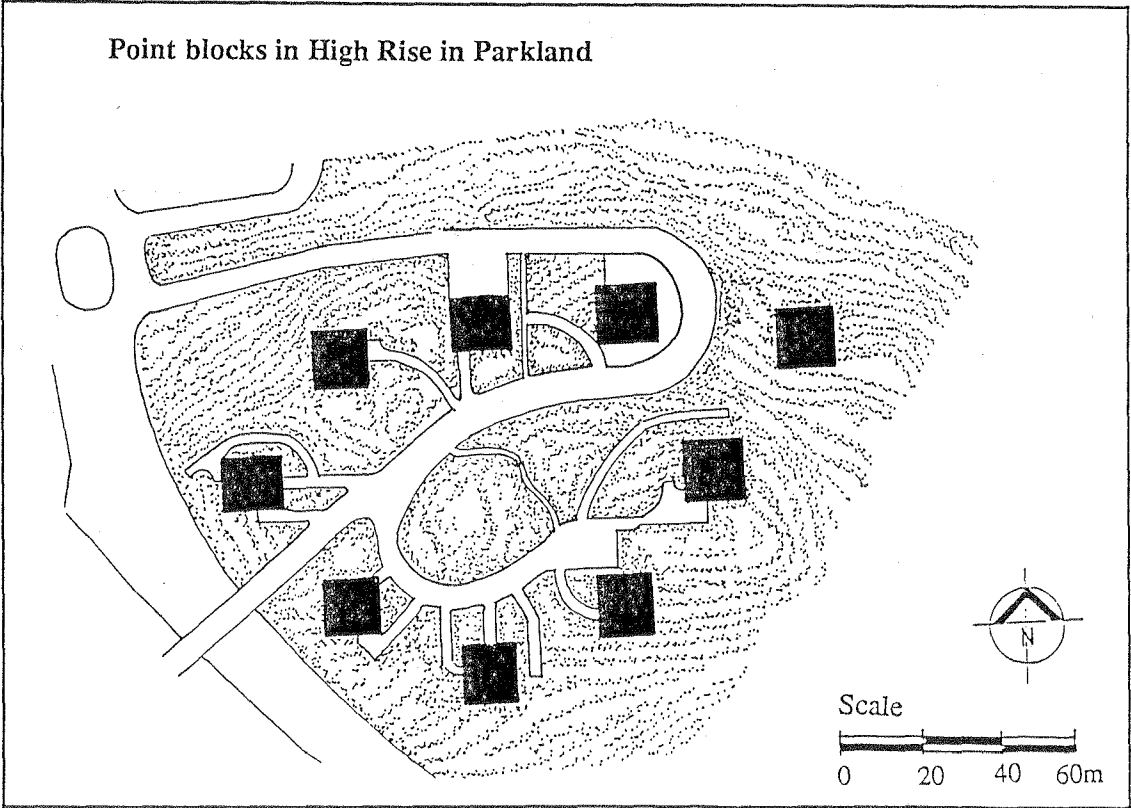


Figure 16. Danviksklippan, Stockholm, High Rise in Parkland
(Based on plan from Jensen, *High Density Living*, p. 150.)

The Work of Le Corbusier

The earliest designs for high rise evolved around fundamental issues of access to open space and sunlight. Le Corbusier, however, introduced another dimension into the debate - the concept of the high rise as a vertical 'neighbourhood'. He was concerned with the sprawling nature of the city and aimed to bring people together in high rise apartments where they could enjoy centralised activities and facilities.³⁷ Although an extremely influential figure in the Modernist movement, few of his high rise designs were constructed. Unite d' Habitation, which was completed in Marseilles in 1952, best represents his vision for high rise living.

This scheme consisted of 337 apartments organised in an 18 floor slab rectangular block. Le Corbusier incorporated a range of communal facilities including co-operative shops, a restaurant, hotel, communal washing areas, a creche, kindergarten, playground and swimming pool. He envisaged the building as an independent and equitable community where even women could be free of 'domestic drudgery'.³⁸ The external grounds were designed with considerable care, particularly when compared to earlier high rise schemes. Unlike other architects, Le Corbusier was aware that vast open spaces were not the answer to the overcrowded city. He wrote in his Radiant City proposal that he:

...was tortured by the thought that the great empty spaces of this imaginary city, everywhere dominated by the sky, would be so dead, so dull, that its inhabitants would be panic-stricken.³⁹

Consequently the three and a half hectare grounds surrounding the building were designed to be more than just space, instead incorporating garages, tennis courts and other recreational facilities.

The Marseilles Block was intended as a housing prototype which could be used to replace towns and suburbs. For Le Corbusier the building was much more than a housing form. Following a strong Utopian tradition established by Owen and Garnier, he had developed a building block for a new society.⁴⁰

Regardless of its egalitarian origins, the design of High Rise In Parkland often became simply an exercise in spatial composition and building orientation. Although Le Corbusier advocated more complex social ideologies, his contribution was limited to a well copied architectural form. His developed concept for communal living was often reduced to the simplistic idea that a high rise building was by nature a community. Detached houses were regarded as socially isolating whereas in contrast, high rise living with large areas of open space and communal facilities, was considered liberating.⁴¹

³⁷ Le Corbusier, *The Marseilles Block*, trans. Geoffrey Sainsbury, (London : The Harvill Press, 1953), p. 32.

³⁸ *ibid.*, p. 51.

³⁹ Jacques Guiton, *The Ideas of Le Corbusier : On Architecture and Urban Planning*, trans. Margaret Guiton, (New York : George Brazillier, 1981), p. 103.

⁴⁰ Rowe, *op. cit.*, p. 204.

⁴¹ Glendinning & Muthesius, *op. cit.*, p. 113.

High Rise in Parkland represents the most literal interpretation of Modernist housing ideology. It was the most extreme example of defamiliarisation - the high rise apartments and surrounding external spaces bearing no resemblance to existing urban forms or cultural patterns. The concept was enthusiastically received throughout the world, especially as a model for slum clearance programs and for the provision of low income housing. High Rise in Parkland was used extensively in Europe, particularly Eastern Europe, America and Britain, with its popularity continuing well into the 1970s.

LOW RISE URBAN

During the 1960s, many designers, urban theorists and sociologists became dissatisfied with the rational architecture of Modernism, in particular high rise housing. From this emerged a group of designers called Team X who advocated the design of more livable environments for people. They reacted against the purely functional form of high rise and called for a return to more articulated spaces. Van Eyck, a prominent architect in Team X, described the work of the Modernists as making:

...a flat surface of everything so that no microbes can survive the civic vacuum cleaner; turned a building into an additive sequence of pretty surfaces...with nothing but emptiness on both sides. To think such architects are given to talking devotedly about space whilst they are actually emasculating it into a void.⁴²

This new philosophy involved the dismissal of arbitrary geometry in preference for planning at a more intimate scale with increased density, detailing and coherence. Although Low Rise Urban recognised the value of enclosed and varied spaces, it still incorporated many Modernist housing characteristics. Its approach fell between that of Neo-Radburn and High Rise in Parkland. Like Neo-Radburn, it included a central spine of common open space, low rise housing and the separation of pedestrian and vehicular circulation. However, it also shared the rational architecture that characterised High Rise in Parkland, - repetitive dwelling units with little visual distinction and strict siting in accordance to orientation. It did develop its own distinctive characteristics; namely the use of:

- a) pedestrian streets to connect clusters of housing; and
- b) repetitive dwelling units such as patio and courtyard housing which incorporated private open space within the basic architectural form.

Pedestrian Streets

Traditionally the street and associated spaces formed the places of social interaction. This movement recognised the social role of the street but developed its own interpretation - the pedestrian street. The pedestrian street was conceived as a lively small public space which would form the spine of the community. It was to provide "places" for society's socio-psychological

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Alison Smithson, (ed.), *Team 10 Primer*, (London : Studio Vista, 1968), p. 44.

needs',⁴³ linking clusters of housing together with nodes and squares where people could meet and socialise.

Architects such as the Smithsons even proposed elevated street decks which in their scheme for Golden Lane were used to provide links between four blocks of flats.⁴⁴ These 3.6 metre wide covered decks were designed to provide the interaction of the street, acknowledging the isolation of flat dwellers. Other designers proposed more ground coverage - low rise, high density developments, with units grouped around a central pedestrian core.

Low Rise Urban was committed to the promotion of social interaction. Elaborate pedestrian systems were fundamental in achieving this goal, with some designers regarding footpaths 'as the stems from which community would develop'.⁴⁵ A new design vocabulary was developed to describe community design in this new urban form. Words such as 'cluster', 'core', and 'node' were used to designate areas for social interaction.⁴⁶ A cluster described a group of houses sited around a common courtyard while a node could be an informal square incorporated at the crossing of two paths. Community core was used to describe the pedestrian spine which linked individual houses.

This was in fact an urban extension of the Neo-Radburn concept. Whereas Neo-Radburn grouped housing and pedestrian circulation around picturesque open space, Low Rise Urban developed this space into a more complex and varied urban form. Figures 17 and 18 illustrate two examples of pedestrian streets commonly found in Low Rise Urban housing developments.

Patio and Courtyard Housing

During the 1960s, socio-psychological values such as territory, privacy and identity were identified by sociologists as important issues in the design of housing.⁴⁷ These values, together with the move towards low rise, high density housing, created interest in housing types such as the patio house and the courtyard house.

These housing types were often L shaped, with a totally enclosed, private garden forming the completed square. Many designers began to realise that the vast open spaces created by High Rise in Parkland were not appropriate for housing, and recognised the value of private external spaces.⁴⁸ The courtyard house allowed the integration of private open space into the built form, without limiting site planning opportunities. It allowed the units to be organised in a variety of ways and mixed with other housing types to create visually interesting massing, elevations and spaces.

43 'Aesthetic', AD 10-1958, p. 385, 'Anti-Cartesian', Smithson, pp. 84-87, as quoted in Glendinning & Muthesius, op. cit., p. 122.

44 Glendinning & Muthesius, op. cit., p. 122.

45 JRIBA 7 - 1967, p 274, as quoted in Glendinning & Muthesius, op. cit., p. 142.

46 Glendinning & Muthesius, op. cit., p. 134.

47 Glendinning & Muthesius, op. cit., p. 144.

48 Glendinning & Muthesius, op. cit., p. 144.

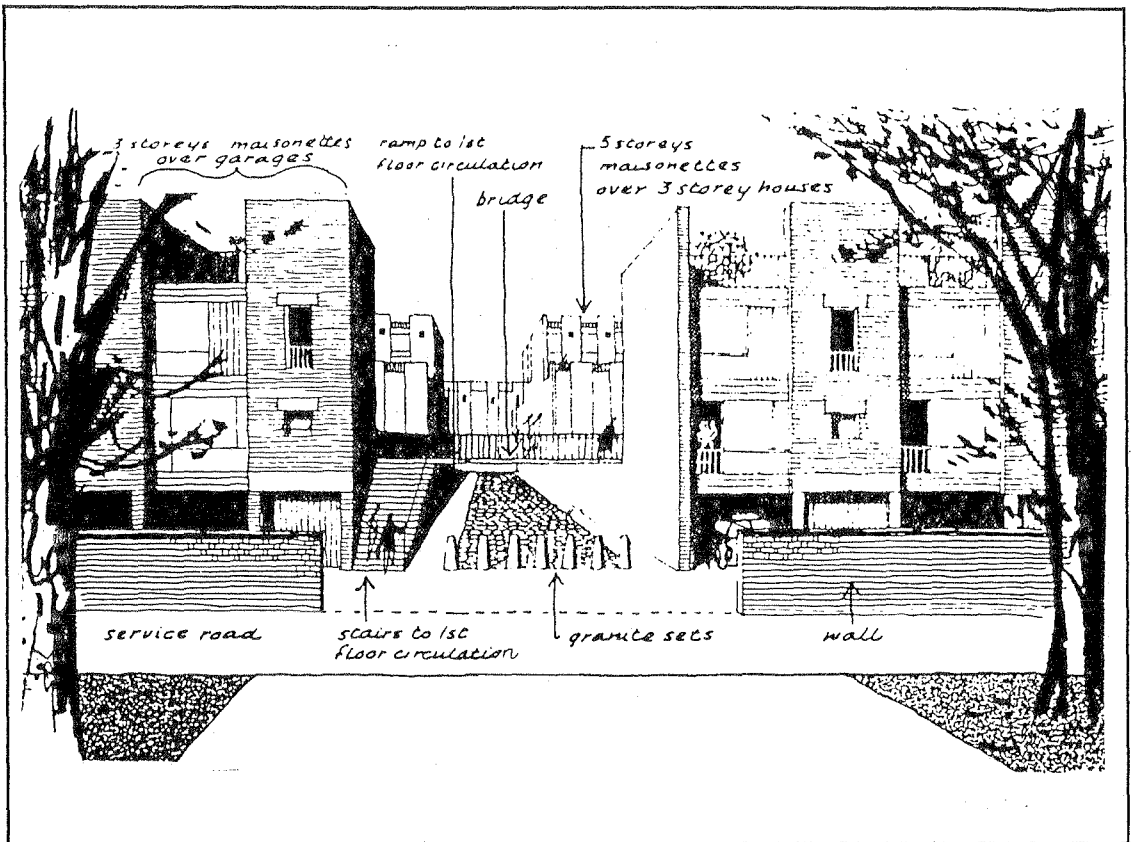


Figure 17. The 'Town House' project, London 1955-6, which was characterised by a complicated system of pedestrian streets on varying levels
(Source: Glendinning & Muthesius, *Tower Block*, p. 126.)

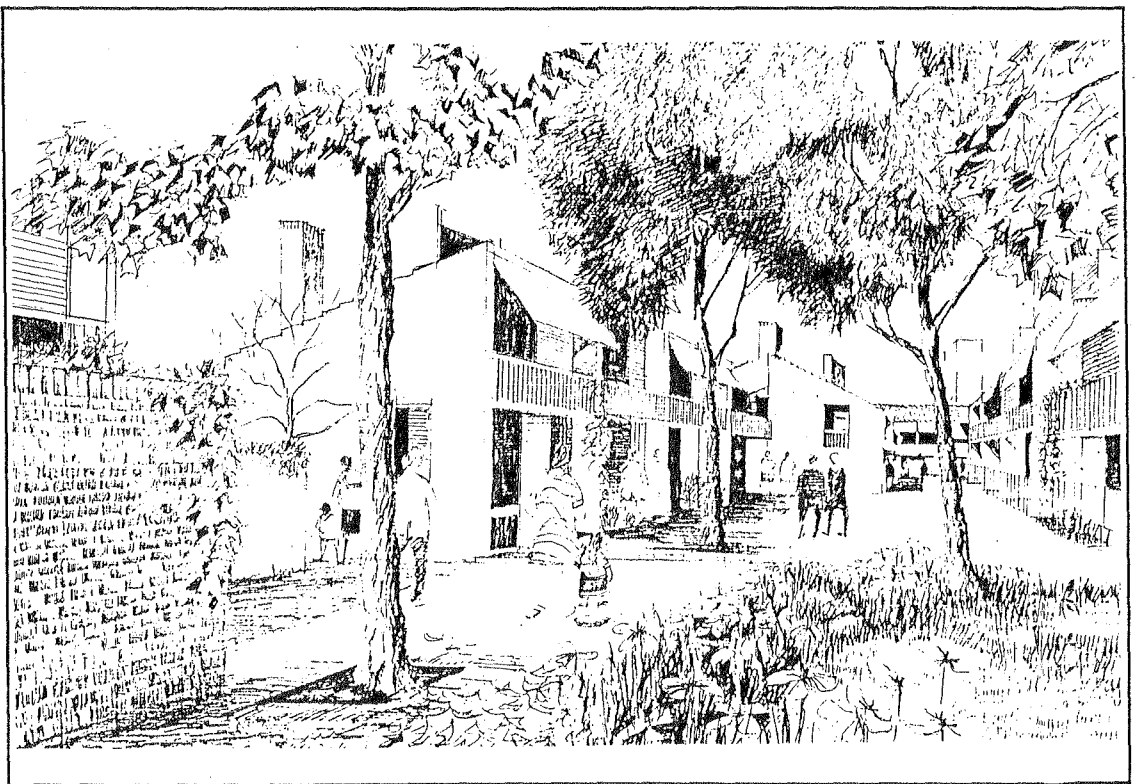


Figure 18. Tuggeranong, ACT, a view of the proposed residential spine
(Source: Tanner, *Australian Housing in the Seventies*, p. 119.)

An English design for a Low Rise Urban development incorporating over 230 identical courtyard houses is shown in Figure 19. This design which was constructed in 1966, involved the siting of housing around a number of pedestrian streets. Central to the development was a green spine of common open space which formed a focus for the housing. Each house was provided with an identical area of private open space, with no transitional space defined between the front door and the pedestrian street. The vehicular circulation was deliberately restricted to the perimeter of the site in order to create a pedestrian orientated residential environment.

The return to articulated external spaces and the use of housing types which incorporated private open space was regarded by many as a more appropriate urban housing model than high rise. The intention of Low Rise Urban to design socially interactive residential environments was an acknowledgment of the social failings of the high rise. Ironically, Low Rise Urban was often used as a model for urban renewal throughout the 1960s and 1970s, replacing existing inner city populations with 'designed' communities.

Although this spatial model recognised the importance of human scale, identity and territory, it maintained many characteristics associated with Modernism, such as the super block, separation of pedestrian and vehicular circulation, common open space and standardised dwelling units. Similarly, to both Neo-Radburn and High Rise in Parkland, Low Rise Urban did not recognise aspects of traditional spatial organisation such as public and semi-private spaces, the concept of front and back in housing and the role of the public street. Instead, it relied largely on environmental determinism to produce an 'ideal' residential environment which promoted social interaction and a sense of community.

* * *

Together these three spatial organisations represent a sixty year evolution in Modernist spatial theory. The strategy of defamiliarisation, which formed the core of early Modernist housing theory, brought about the departure from traditional spatial concepts, - both physically and socially.

Physically, these spatial concepts all:

- a) used the super block to minimise the impact of the car and to maximise new design opportunities;
- b) separated pedestrian and vehicular circulation; and
- c) established new spatial relationships between the private house and the public domain.

Socially, they challenged traditional cultural conventions by:

- a) reducing the traditional public domain - the street, to a purely functional role in order to create new spaces for public and private life;

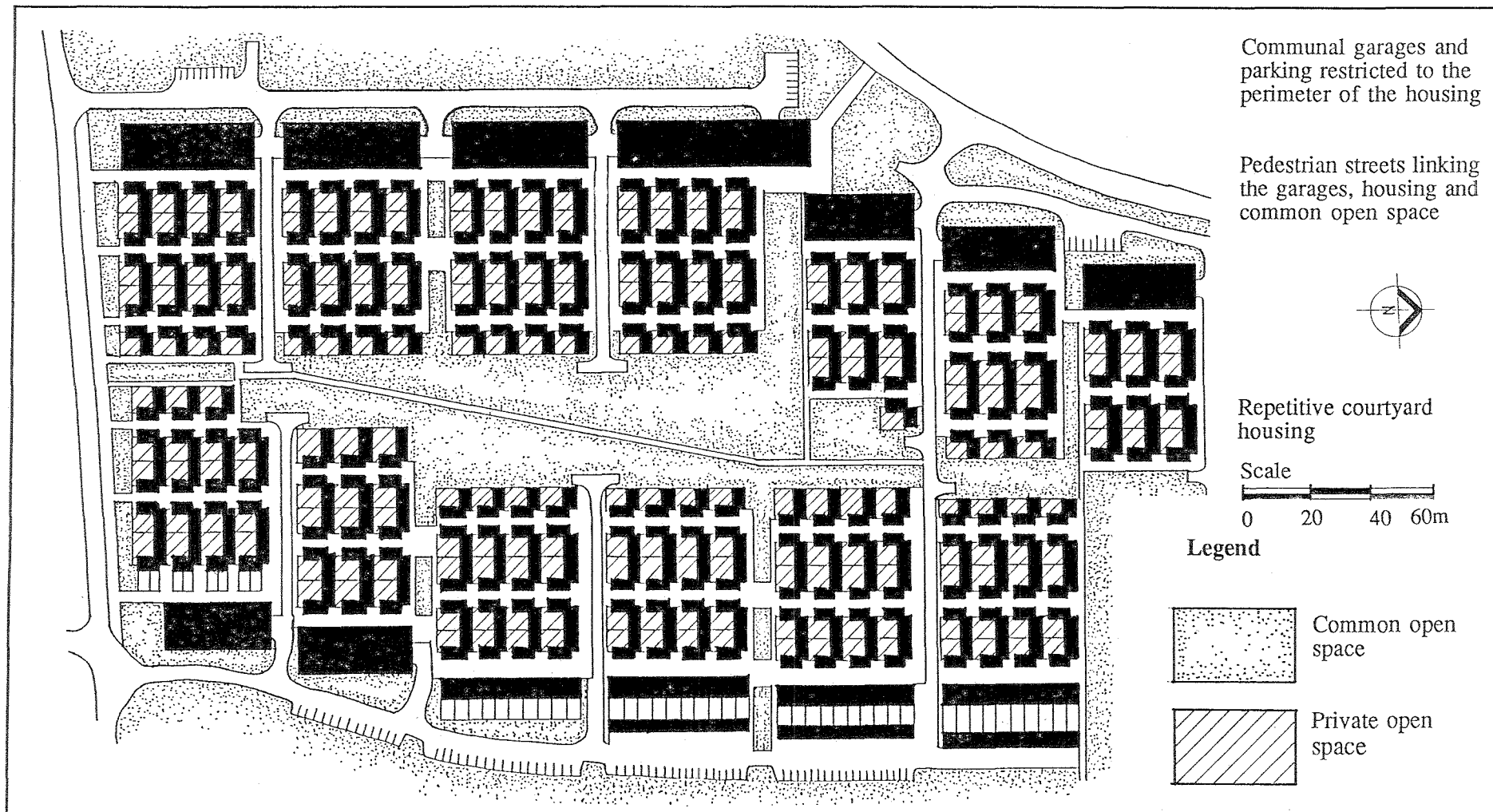


Figure 19. Great Parndon, Clarkhill, 1966, Low Rise Urban spatial organisation involving 231 single storey courtyard dwellings
(Based on plan from Glendinning & Muthesius, *Tower Block*, p. 149.)

- b) attempting to create new collective relationships between residents at the expense of individual needs, for example through the provision of common open space at the expense of private open space; and
- c) rationalising the needs of the individual home in an attempt to establish an equality and a 'sense of community' across the broader spectrum of housing. Housing was to be represented as a total entity, with individual dwellings, spaces and values indistinguishable from the mass.

As shown in Figure 20, these physical and social characteristics are evident in all three Modernist spatial concepts.

These concepts proved influential throughout the world, possibly because they could be easily modified and used with a range of different housing types. Many designers incorporated these new spatial concepts into their designs, unaware of the Utopian thinking which inspired these 'styles'. Others did share the same ideology, believing that housing designed with collective associations, offered the best housing opportunities, both socially and architecturally.

Clearly, Modernist spatial theory differs dramatically from the traditional spatial organisation described in Chapter I. For example, the individual house with its associated private and semi-private spaces is no longer distinguishable amongst the mass representation of the Modernist housing development. The street, which represented the public domain and public life, is replaced by service courts and access ways, with common open space instead expected to facilitate the social and spatial experience of the street.

Despite these extreme differences and the fact that Australia had already established a high standard of living, Australia too followed the international trend of adopting Modernist housing concepts. The reasons and impact of this decision, will be explained in the following chapter.

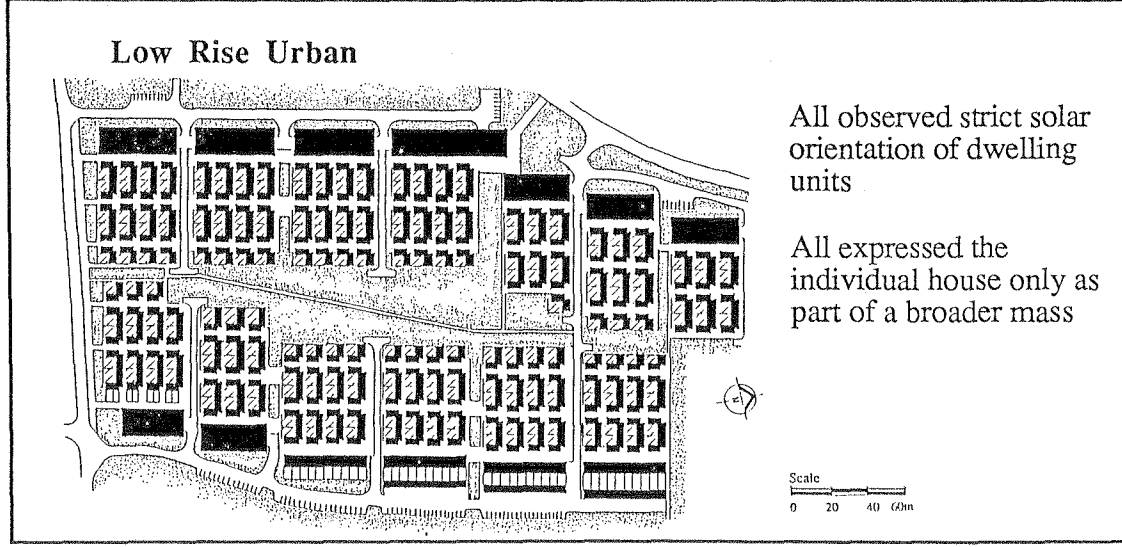
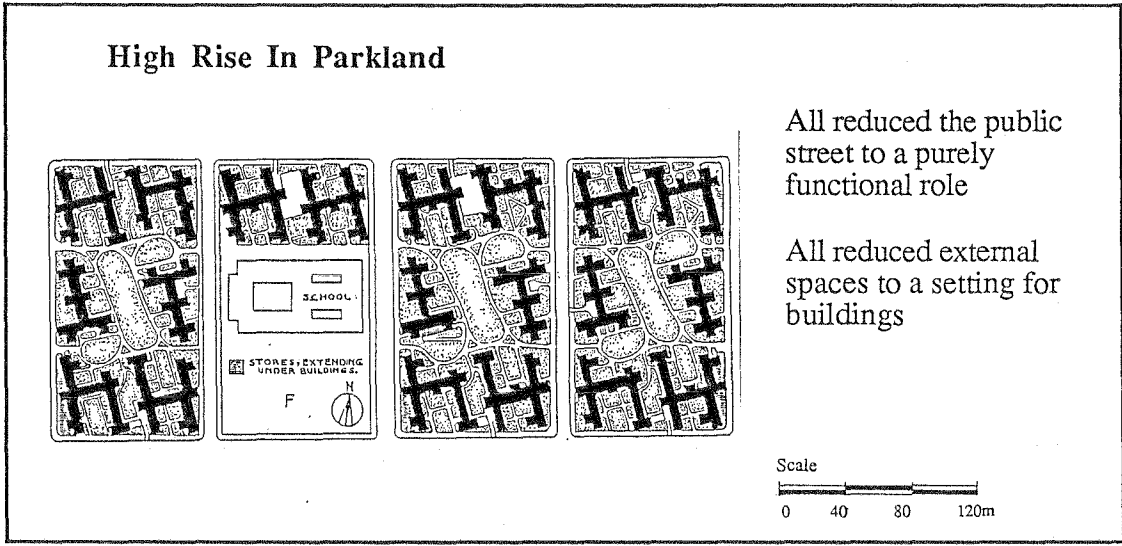
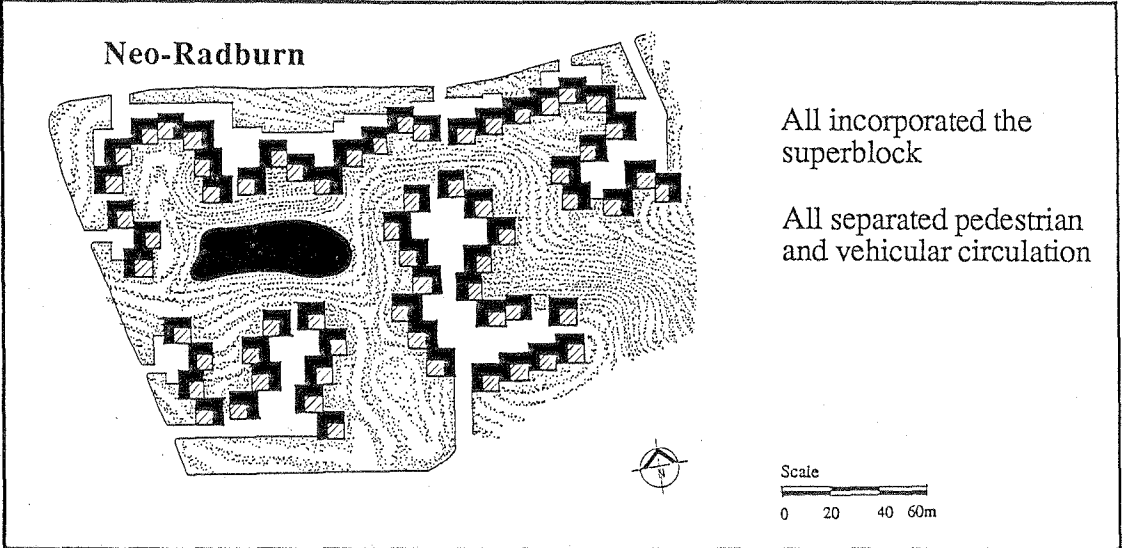


Figure 20. The characteristics of Modernist spatial organisations

CHAPTER III

MODERNISM AND AUSTRALIAN

HOUSING

Unlike other western countries, Australia did not experience extreme housing shortages until the Great Depression of the 1930s. As discussed in Chapter I, there was growing concern at the turn of the century that the inner areas of Australian cities were diseased, overcrowded and immoral. Rather than address these problems, these slums were simply abandoned in order to develop the next ring of land - the suburbs. The Garden city inspired suburbs complete with fresh air, open space and detached houses, were regarded as the appropriate alternative to the inner city. The appeal of the suburbs, together with the high rate of home ownership, allowed the provision of housing to remain largely independent of government involvement.

The effects of World War II significantly altered this situation. The decline of housing construction during the war years; together with post war immigration, the need for soldier resettlement and the lack of building materials created extreme housing shortages.¹ In addition, the condition of inner city areas had deteriorated further. These factors forced the government to take an active role in the provision of housing and led to the establishment of the 1945 Commonwealth - State Housing agreement. More importantly, government intervention created the ideal situation for the application of Modernist housing principles. The ability to resume or purchase large tracts of land enabled the development of large scale super blocks - an essential component of Modernist spatial concepts.

Application of Modernist housing principles within the private sector began later, assisted by the formation of the Strata Title Act in Victoria in 1960. Previously, the lack of appropriate legislation concerning ownership and management of communal facilities had limited private sector development. The Strata Title Act and subsequent legislation allowed the application of Modernist spatial concepts as they provided for shared ownership of common facilities through a management body - a body corporate. However, the scale of private sector developments tended to be smaller than those of the public sector. This was primarily due to market constraints and the fact that the State housing authorities were responsible for producing a large proportion of Australian housing. For example by the 1970s, the N.S.W. Housing Commission had become the State's largest developer, producing one fifth of all housing in N.S.W.²

¹ Bruce Judd & John Dean, *Designed for Urban Living: Recent Medium-Density Housing In Australia*, (Red Hill, ACT : The Royal Australian Institute of Architects in association with the Department of Health, Housing and Community Services, 1993), p. 11.

² Gina Ghioni, *Waterloo : A case study of public housing and redevelopment in Sydney*, Advanced Study Report, University of Sydney, 1990, p. 24.

POST WAR RECONSTRUCTION

By the end of World War II, Australia was experiencing a housing crisis. Prior to the war, the national housing shortages was estimated at 120,000 dwellings.³ By 1945 this figure had increased to 300,000 together with an annual requirement of 40,000 dwellings.⁴ This demand was due to a combination of factors; namely:

- a) the lack of civil building during the war;
- b) the need to house returned defence personnel;
- c) the need to replace substandard dwellings which had increased during the war years; and
- d) the effects of demobilisation, with people moving back to country areas from the cities.

The provision of housing was integral to post war social reconstruction and the government was urged by many planners and architects to use the opportunity to plan a modern society for Australia.⁵ The influential post war publication, *We Must Go On*, called on the government to plan for a better community, stating:

Housing is more than the designing and building of houses, for the house is the smallest unit in the complex capital equipment which is necessary if men, women and children are to carry out easily and efficiently the great variety of which makes up human life. The house, therefore, must be seen as not as an isolated unit, but as an integral part of a much greater whole, as part of a neighbourhood, of a town, of a region, each of which possess some sense of unity and common life.⁶

The Federal Government responded through the establishment of the Department of Post War Reconstruction. This department, under the control of J. B. Chifley, comprehensively researched contemporary housing and planning issues. It was during this period of post war idealism, that Modernist housing principles were first seriously considered in Australia.

During the 1940s many publications were produced, with two texts proving particularly influential: the Commonwealth Housing Commission's *Final Report* (1944) and Walter Bunning's publication, *Homes in the Sun* (1945).

³ Walter Bunning, 'The housing problem in Australia', *Papers from the Winter Forum of the Australian Institute of Political Science*, Wollongong, June 20-22, 1947, (Sydney : Angus and Robertson, 1947), p. 6.

⁴ Commonwealth Housing Commission (CHC), *Final Report*, 1944, p. 11.

⁵ Carolyn Allport, 'The unrealised promise: plans for Sydney housing in the forties', in *Twentieth Century Sydney : Studies in Urban and Social History*, ed. Jill Roe, (Sydney : Hale and Iremonger, 1980), p. 48.

⁶ F. O. Barnett, W. O. Burt & F. Heath, *We Must Go On : A Study of Planned Reconstruction and Housing*, (Melbourne : The Book Depot, 1944), Foreword.

The Commonwealth Housing Commission

In 1943, Chifley appointed a national task force to investigate the housing requirements of Australia during the post war period. The task force travelled throughout the country, consulting various State housing authorities and premiers. The final document recommended extensive government intervention in the provision of post war housing and town planning. It included initiatives for:

- a) National, Regional and Town planning;
- b) minimum housing standards;
- c) slum clearance;
- d) building industry reform; and
- e) the role of the government in the provision of housing.

The report clearly illustrates the emergence of Modernist housing principles in Australia. It contained an extensive appendix of housing and planning principles illustrating new concepts for subdivisions, site layout and slum redevelopment. Figures 21 and 22, for example, illustrate some of the High Rise in Parkland schemes proposed for the redevelopment of slum areas. These proposals emphasised the advantages of high rise housing in providing community facilities and large areas of open space, in contrast to the existing inner city subdivisions. The report also recommended that the government invite foreign town planning professionals to advise on planning issues and that Australian professionals travel to Europe and the United States to experience first hand innovative planning and housing concepts.⁷

However, it is important to understand that many Modernist principles were not considered appropriate for Australia. This may have been due to the fact that Australia, unlike many European cities, had already developed advanced social policy which established a level of equity across the population. Further, within Australian housing, this equity was best represented by the detached cottage. Consequently, the Commonwealth Housing Commission's recommendations for the use of Modernist spatial organisations often incorporated detached cottages instead of other housing types.

Figures 23 and 24 show the design approach recommended by the Commonwealth for the implementation of Radburn spatial organisation. It is significant to note that the proposal incorporates detached cottages with fenced private back yards, a significant modification of Stein and Wright's original design. Unlike the double fronted Radburn housing, the incorporation of the private yard adjacent to the service way clearly identifies this frontage as the back of the house, with the front of the house orientated towards the parkland.

7

CHC, op. cit., p. 40.

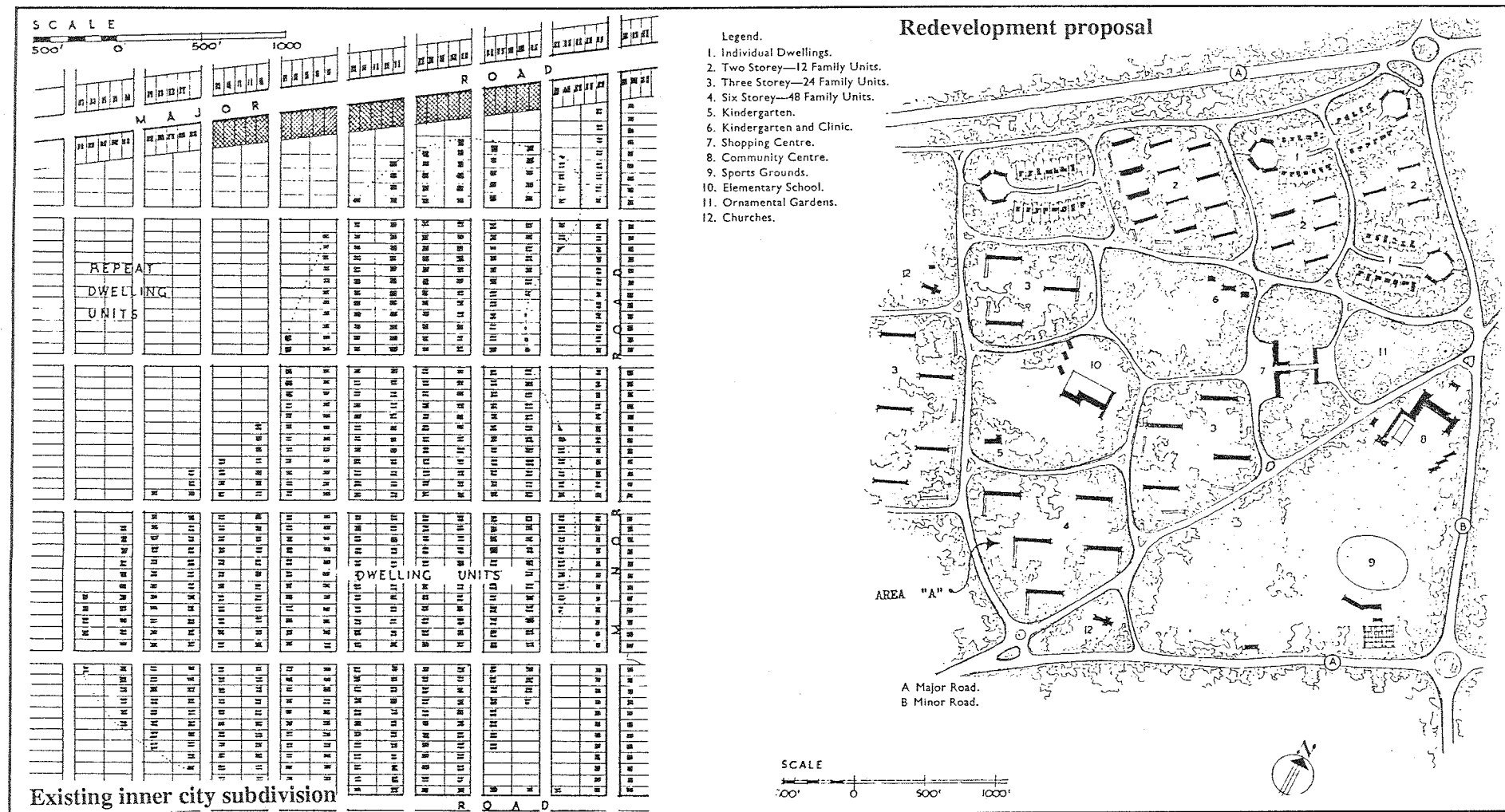


Figure 21. Redevelopment proposal for slum areas using a High Rise in Parkland spatial organisation
(Source: Commonwealth Housing Commission Final Report, pp. 96-7.)

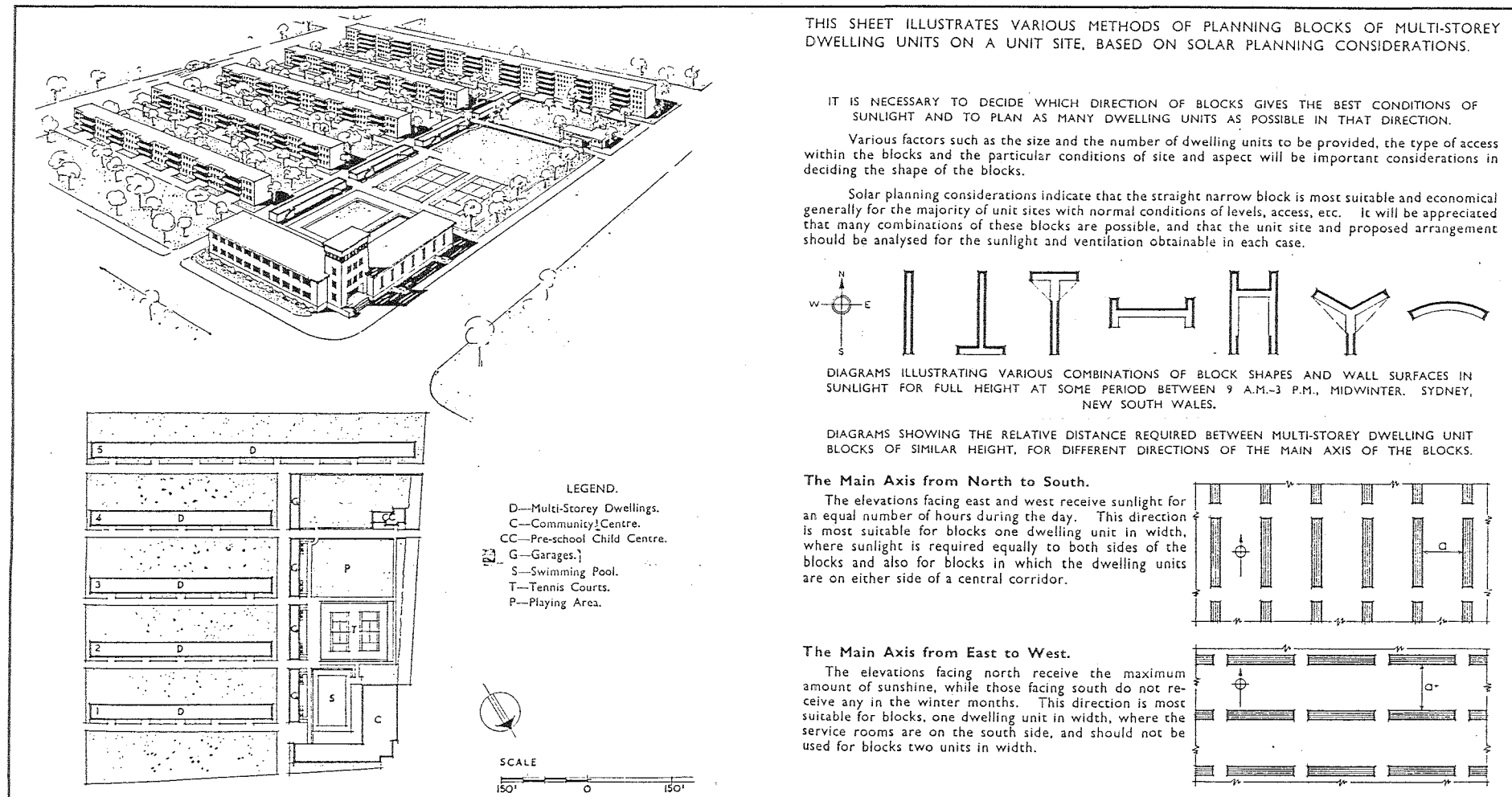


Figure 22. Slum clearance scheme for an inner city area, together with recommendations for the siting of high rise buildings
(Source: Commonwealth Housing Commission Final Report, p. 35, p. 317.)

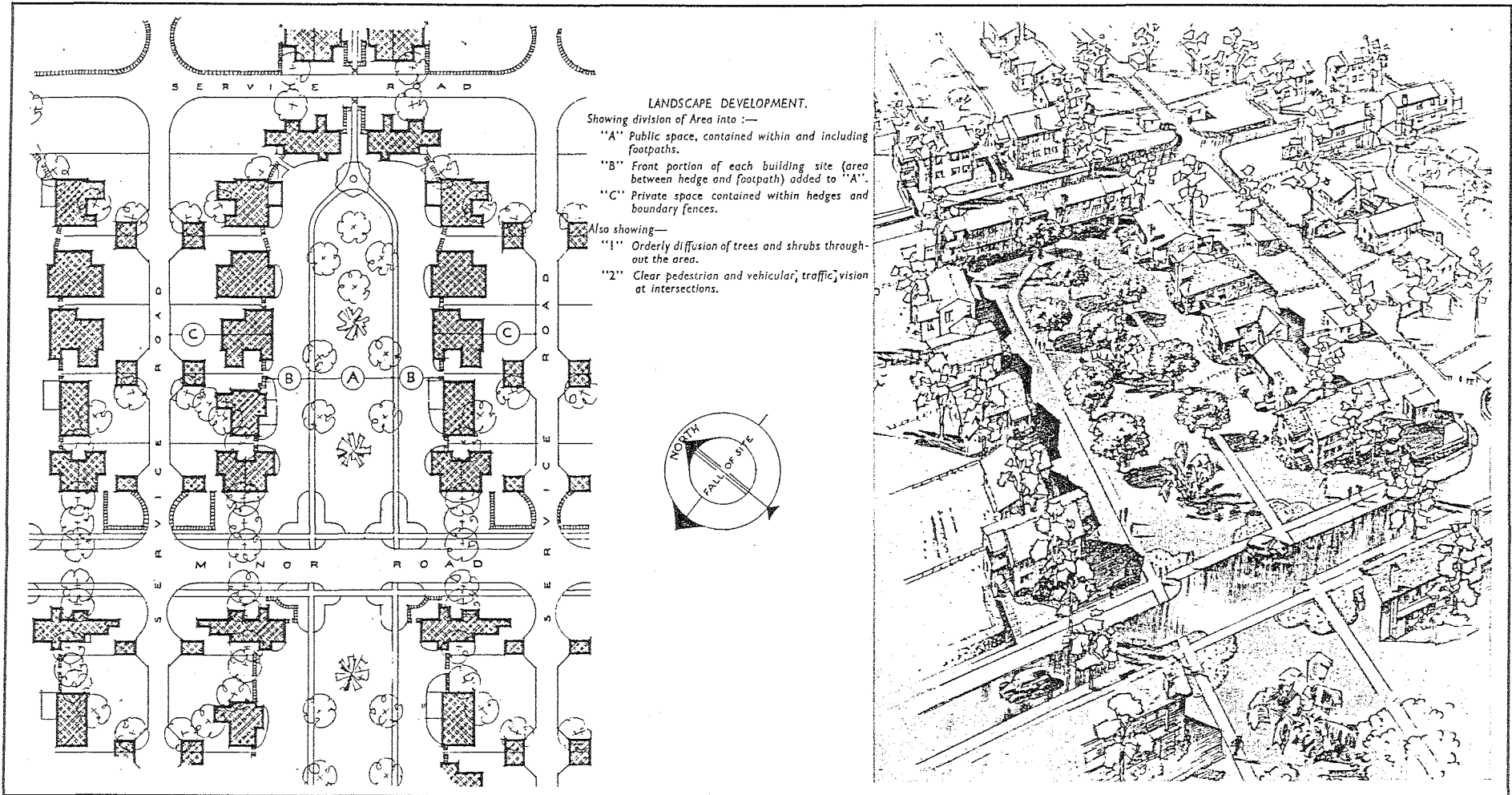


Figure 23. The cul-de-sac park subdivision shares many characteristics with Stein's Radburn proposal, but retains the detached cottage and the private back yard (Source: Commonwealth Housing Commission Final Report, pp. 117-8.)

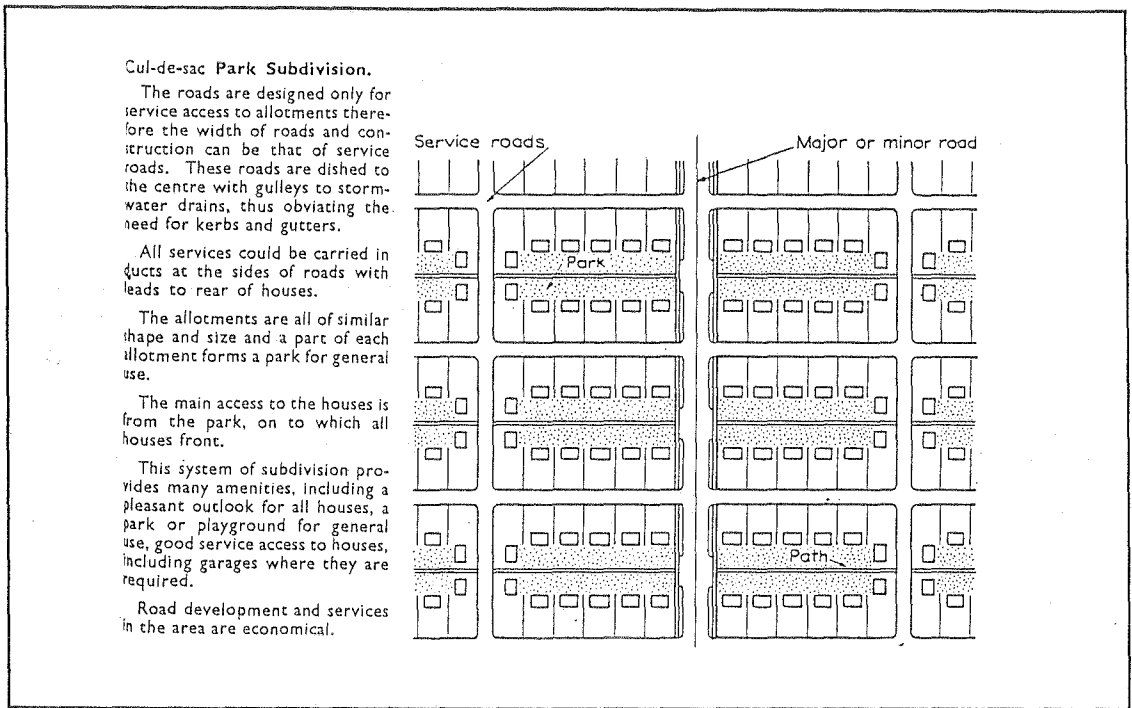


Figure 24. The cul-de-sac park subdivision

(Source: Commonwealth Housing Commission *Final Report*, p. 313.)

Similarly, the task force did not accept the merits of high rise living, instead stating that:

...a single dwelling unit, surrounded with ample open space provides the most satisfactory living conditions for families with young children. In some of the high density inner areas, it will not be possible...to build single dwellings for all families...therefore the erection of a number of multi-storey dwellings for families will be unavoidable...We consider that this form of dwelling for families should not be more than three storeys from ground level.⁸

This statement, together with others calling for the provision of adequate homes, rather than welfare housing, reflect the egalitarian ideals which characterised the post war reconstruction era. The report also stressed the need to provide community facilities such as schools, shops, health centres and play areas in close association with housing.

We consider that a dwelling of good standard and equipment is not only the need but the right of every citizen - whether the dwelling is to be rented or purchased, no tenant or purchaser should be exploited by excessive profit.⁹

This publication proved very influential, establishing both policy and design philosophies for the various State housing authorities. The housing and planning principles also provided clear guidelines for planners, architects and surveyors regarding the application of Modernist spatial organisation within the Australian context.¹⁰

⁸ CHC, op. cit., p. 94.

⁹ CHC, op. cit., p. 8.

¹⁰ Robert Freestone, *Model Communities: The Garden City Movement in Australia*, (Melbourne : Thomas Nelson, 1989), p. 218.

Walter Bunning

Bunning was an influential Australian architect with a commitment to Modernism. After completing his education in Sydney in 1936, he travelled extensively throughout Europe, Britain and North America. He remained overseas until 1939, working in various architectural firms including the office of Skidmore, Owings and Merrill.¹¹ During this time, Bunning was exposed to many new design theories and was responsible for bringing these ideas back to Australia. Bunning, like other travelling professionals, formed an important link between Australia and the new design developments occurring in other parts of the world.

Bunning returned to Australia on the eve of World War II, and helped establish the Sydney based Modern Architectural Research Society (MARS) in 1939.¹² In 1943, he was appointed Executive officer of the Commonwealth Housing Commission and in 1945, published his own personal vision for Australian housing, *Homes In The Sun*.

In his book, Bunning sought to:

...draw a picture of the way Australian homes could be built to admit sunshine and fresh air, to have healthy surroundings, peace and quiet, and to suit our climate and traditions; it is concerned with the housing needs of the ordinary family. It shows how the thoughtful arrangement of our houses, through town planning, can help to make a happy life possible with plenty of open space and parks for our leisure, within easy distance of play centres, swimming pools, schools and social centres for all ages.¹³

He advocated the use of planning concepts, such as the neighbourhood unit, for the design of new communities in Australia. However, he did not call for the standardisation of community design, instead suggesting that community plans 'vary according to the established life, traditions and character of the particular community'.¹⁴ In his book, he outlined an example of community planning for a population of 10,000. The scheme which is illustrated in Figure 25, consisted of a centrally located community centre and school, surrounded by detached housing grouped in a cul-de-sac park subdivision. Similar to the approach at Radburn, the proposal incorporated wedges of parkland to provide pedestrian circulation between the housing and the community centre.

In addition, Bunning also developed strategies for the creation of neighbourhoods within existing suburbs. He felt that:

The suburbs are too frequently merely an overall pattern of houses with no recognisable centre. They lack individuality and character.¹⁵

11 Freestone, 'Modernism on the rocks', in *Australian Planner*, vol. 32, no. 4, 1995, p. 207.

12 *ibid.*, p. 208.

13 Walter Bunning, *Homes In The Sun : The Past, Present and Future of Australian Housing*, (Sydney : W. J. Nesbit, 1945), p. 5.

14 *ibid.*, p. 44.

15 *ibid.*, p. 87.

Bunning proposed a scheme for re-arranging existing grid streets to reduce the impact of the car and to develop super blocks. Central to this scheme, which is shown in Figure 26, was the provision of an interior park which would provide safe play areas for children and a focus for the neighbourhood.

Homes In The Sun was one of the most thorough and comprehensive documents for post war reconstruction in Australia.¹⁶ Bunning's ideas for community planning can be directly linked to overseas developments, particularly the work of Clarence Stein. However, his ideas, particularly for inner city redevelopment, were not as extreme as much of the Modernist ideology. He did not advocate total demolition of existing areas, instead recommending incremental reform which retained much of the existing urban fabric and community.

Post war idealism and a national housing shortage provided the perfect platform for the introduction of Modernist housing principles into Australia. The task force established by the Commonwealth Housing Commission forced the Australian government to establish long term strategies for the provision of housing and the planning of new towns. Government involvement also stimulated intellectual discussion between design professionals and politicians regarding the future of Australian urban development. This discourse was particularly enriched by professionals who had travelled or worked overseas, such as Walter Bunning, who 'were an important mechanism for diffusing and legitimising modernist design ideas back in Australia'.¹⁷

Modernist ideas began to emerge in government reports and publications by the end of the 1940s. Particularly popular were the concepts of:

- a) the neighbourhood unit as the base unit for urban redevelopment;
- b) the creation of super blocks to segregate pedestrian and vehicular circulation; and
- c) the provision of community centres as social focal points.¹⁸

Post war Australia, however, did not readily accept all aspects of Modernist housing theory. In fact, housing types such as the high rise block gained only limited acceptance. In contrast, Modernist spatial organisations received more support as they could often be incorporated with the detached cottage. Radburn style developments were particularly popular as they retained the cottage yet provided large areas of open space, sunlight and could also incorporate the concept of neighbourhood planning.

This initial conservatism, however, was to diminish by the early 1960s with the implementation of slum clearance programs in Australian cities.

¹⁶ Freestone, 'Modernism', op. cit., p. 208.

¹⁷ Freestone, 'Modernism', op. cit., p. 207.

¹⁸ Freestone, *Model Communities*, op. cit., pp. 220-221.

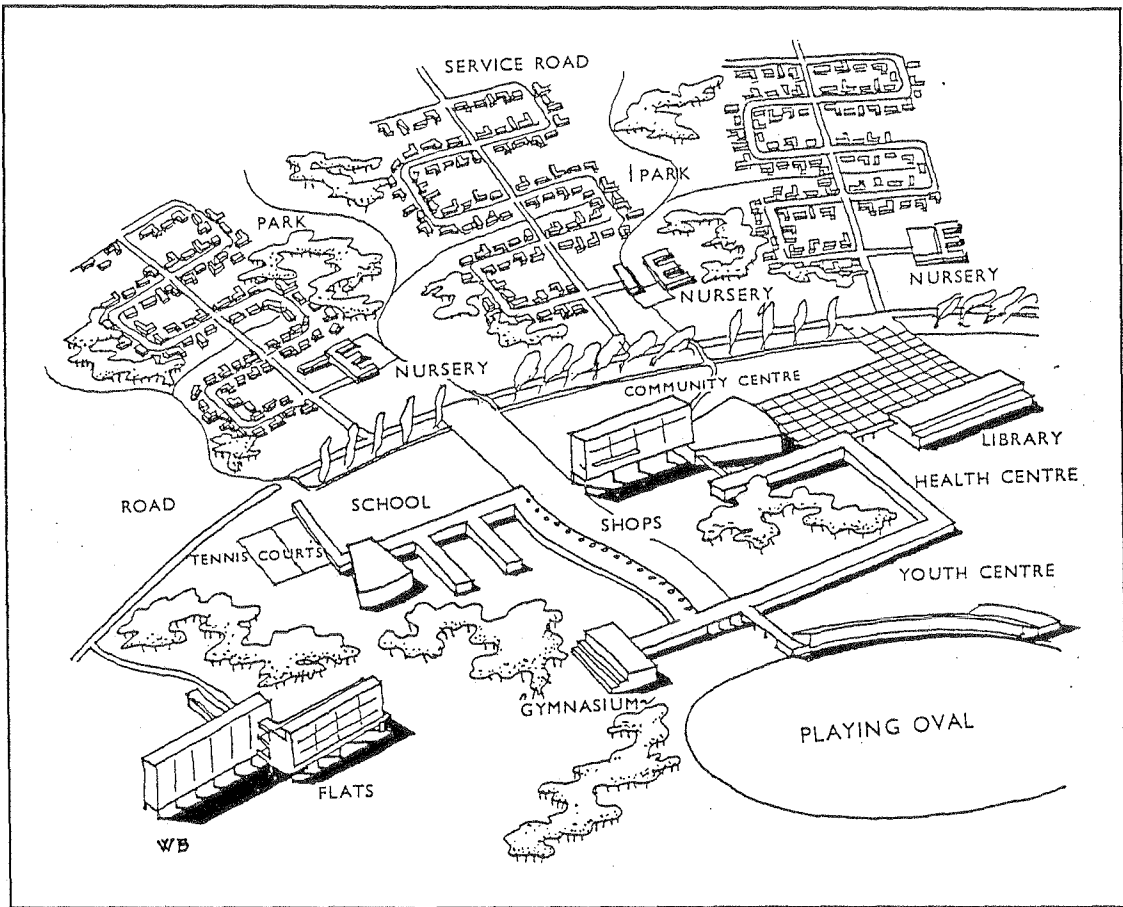


Figure 25. Bunning’s proposal for a neighbourhood of 10,000 people
(Source: Bunning, *Homes in the Sun*, p. 86.)

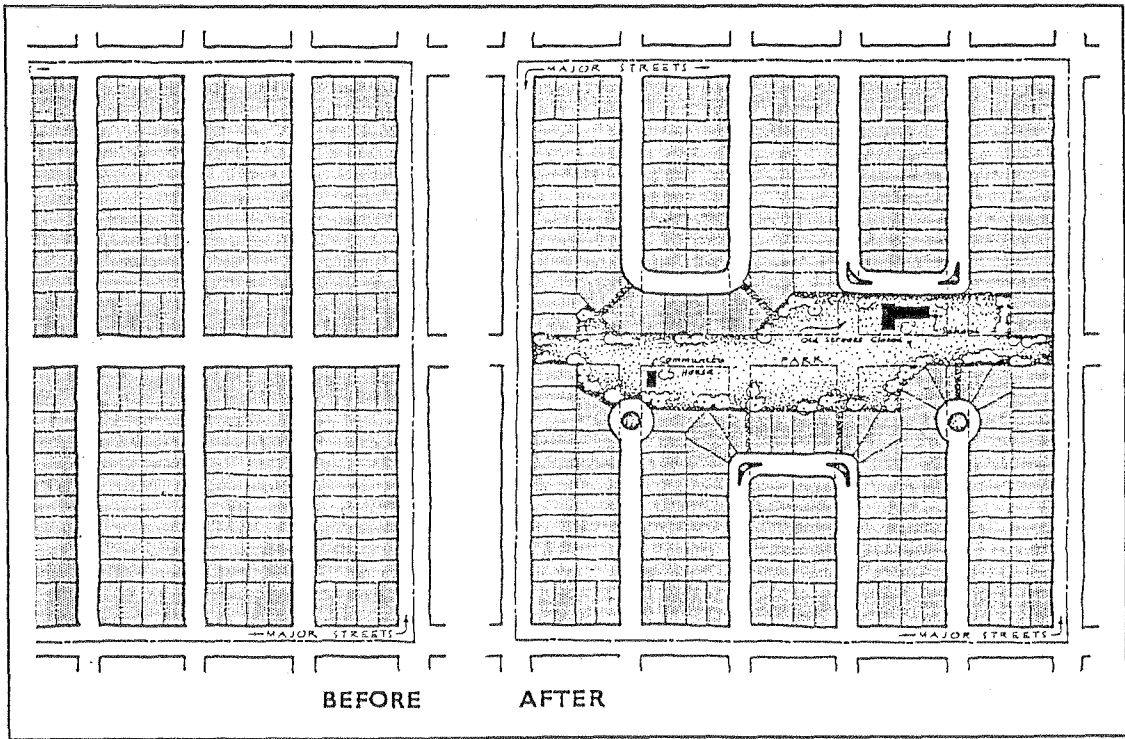


Figure 26. Rearranging existing streets to form super blocks
(Source: Bunning, *Homes in the Sun*, p. 164.)

THE EMERGENCE OF MODERNISM

The Commonwealth Housing Commission's recommendations were incorporated into a national housing program under the 1945 Commonwealth - State Housing Agreement Act. This agreement allocated funds to State governments for the development of new housing estates, the management of housing and the redevelopment of slum areas.

The State government was considered a more effective housing agency than the private sector as it was able to operate on a non profit basis. The State housing departments were also able to experiment freely with new design concepts without concern for market forces. This factor, together with the ability to acquire land and co-ordinate land subdivision with housing construction, created the ideal situation for the application of large scale Modernist housing ideas.

A review of government housing projects in Melbourne and Sydney, from the 1940s through to the 1980s, provides an extensive portfolio of Modernist housing in Australia. The three spatial organisations identified previously in Chapter II; Neo-Radburn, High Rise in Parkland and Low Rise Urban, form the basis for much of the denser housing constructed during this period. Interestingly, a strong philosophical difference emerged between the Victorian and N.S.W. Housing Commissions regarding high rise housing. The Victorian Housing Commission was far more committed to high rise while the N.S.W. Housing Commission developed a clear preference for Neo-Radburn principles.

The private sector made limited use of Modernist architectural and planning principles until the early 1960s. Improved economic conditions, changes in household formation, relaxation of war time rent control and the introduction of the Strata Title legislation produced a boom in denser housing forms during the 1960s and 1970s.¹⁹ Much of this growth occurred in the construction of poorly controlled three storey walk-up developments.²⁰ The remainder, however, included many examples of Modernist housing.

NEO-RADBURN

The N.S.W. Housing Commission, which was established in 1941, regarded its role as more than merely providing low income housing. In addition the Commission was committed to developing complete residential communities, believing that new suburban estates with plenty of open space and fresh air provided the best alternative to the inner city slums. This direction was supported by many Labour Party members who wished to:

...open up the countryside, thereby enabling the working man and his family to have the same housing and recreation facilities as the middle classes.²¹

¹⁹ Judd, op. cit., p. 11.

²⁰ Judd, op. cit., p. 12.

²¹ Peter Spearritt, 'Sydney's slums : middle class reformers and the Labor response', *Labour History*, 26, May 1974, p. 70, as quoted in Allport, op. cit., p. 57.

In contrast to their philosophy, the government regarded the motives of the private developer as purely financial. This attitude is evident in the following description of the speculator builder from the 1949 Housing Commission publication *Homes for the People*:

The familiar method employed has been to acquire an area of land, completely denude it of trees and subdivide it with the object of obtaining the maximum number of building lots so that as many homes as possible could be crammed on to the area. From there the speculator builder carried on with generally no other interest but to build the dwellings with the materials and by the means which would return the greatest possible profit.²²

It was under a strong commitment to social betterment and reform that the N.S.W. Housing Commission began to develop large suburban estates. In the late 1940s, they began designing estates according to the concept of the neighbourhood unit. The Villawood estate, which is shown in Figure 27, was one of the earliest designs, incorporating 850 cottages with community facilities such as a school, community centre and sports grounds. The spatial organisation of the housing, however, did not incorporate Modernist principles, instead retaining elements such as the street and public, private and semi-private open spaces.

This was to change by the early 1960s, when the Housing Commission of N.S.W., together with the National Capital Development Commission in Canberra, pioneered the use of Radburn in Australia.²³ Radburn was first used by the Commission in 1963 at Green Valley, a housing estate in Sydney's outer west. This scheme, consisting of detached cottages, the neighbourhood unit and super blocks, incorporated many characteristics of Stein's original Radburn scheme.

In subsequent years, as the Commission became more concerned with the cost of new subdivisions and urban consolidation, Radburn was frequently used with attached town houses to produce Neo-Radburn style developments. These denser schemes were generally constructed on land located close to facilities such as shops and schools.

Cartwright

In January 1963, the Minister for Housing, Mr Landa issued a press release announcing the construction of a 'new neighbourhood based on one of the world's most modern designs'.²⁴ The design for 900 cottages, flats and aged persons' units was based on Radburn design principles and constructed in the Green Valley Housing Estate. The announcement received much media coverage with the *Sydney Morning Herald* running a front page article entitled "Back-to-Front" Design at Housing Commission 3 million pound Estate'.²⁵

²² Housing Commission of N.S.W., *Homes for the People*, 1949, p. 3, as quoted by Ghioni, op. cit., p. 26.

²³ N.S.W. Housing Commission Report, undated, p. 5.

²⁴ *The Daily Telegraph*, 'Planning A Town Without Fences', 10 January, 1963, p. 9.

²⁵ *The Sydney Morning Herald*, "Back-to Front" design at Housing Commission 3 million pound Estate', 10 January, 1963, p. 1.

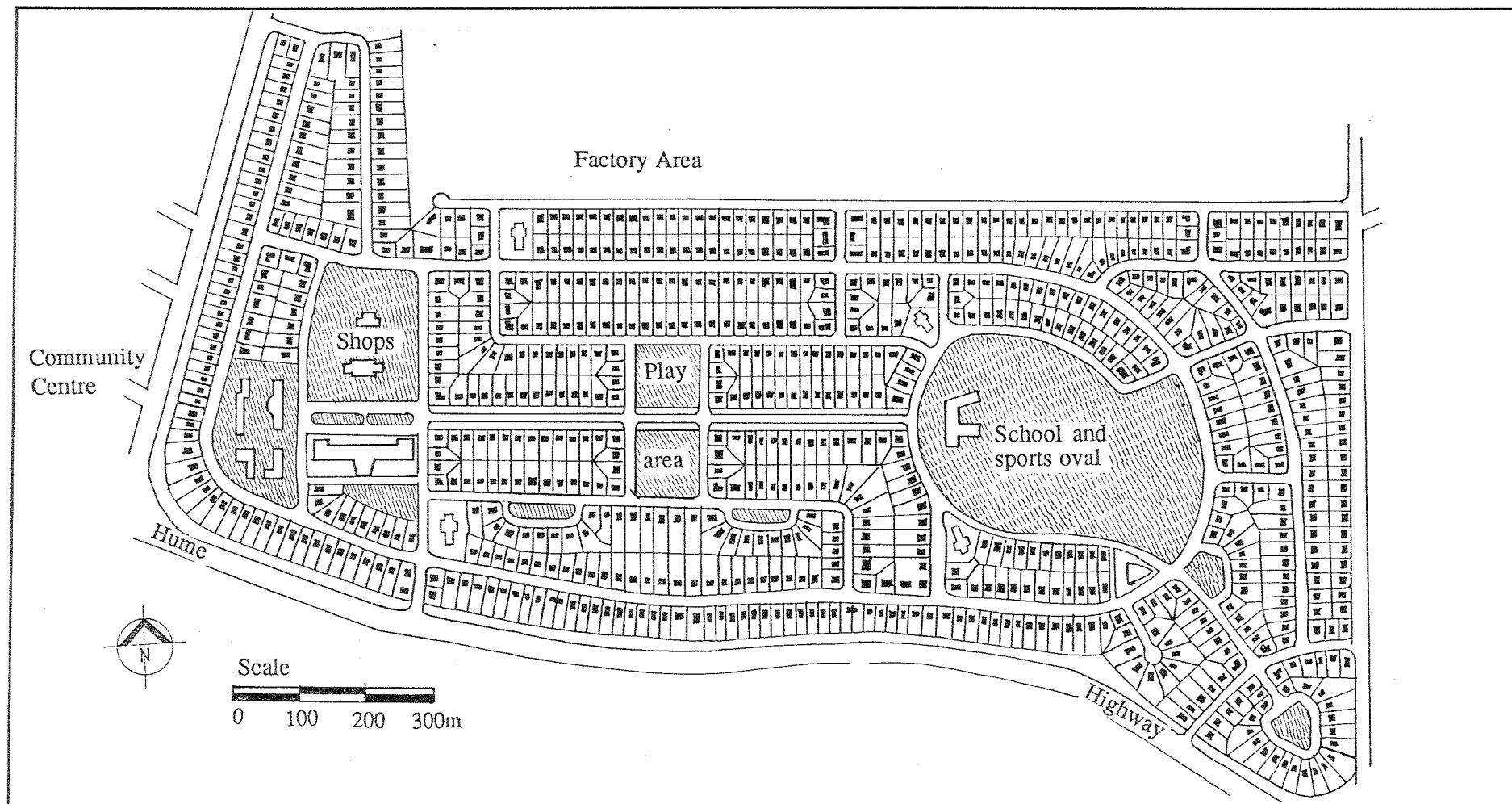


Figure 27. The Villawood Estate, 850 cottages and community facilities designed as a neighbourhood unit
(Based on plan from Freestone, *Model Communities*, p. 224.)

The *Daily Telegraph* also featured a story under the headline, 'Planning A Town Without Fences'.²⁶ This article outlined the features of the new estate, particularly noting that:

...specially designed garden pedestrian-ways would replace streets wherever possible.

Each house would face a "green belt" of gardens and lawns through which a network of pathways would lead to shops, primary school, recreation areas and transport.

To cater for vehicle access, a system of cul-de-sacs streets linked to perimeter roads would reach the back of every house and block of flats.

To maintain this open-garden atmosphere, no-one will be allowed to erect a fence or any type of structure in front of his house.

Even the letter box would lose its traditional place and be attached to the back gate.

The original press coverage allows an insight into the initial Australian reaction to the Radburn model. Issues such as back to front housing and the lack of front fencing received much attention. It is also interesting to note that the origins of the idea were clearly identified as American, with the *Sydney Morning Herald* even continuing their story on a later page under the heading 'Estate on American Design'. It seems that the project received attention and even an element of prestige, simply because the idea was 'modern' and from overseas.

The design for Cartwright, which is illustrated in Figure 28, involved predominantly detached cottages, with some denser housing in the form of walk-up flats. This approach was to change in the late 1960s, when the N.S.W. Housing Commission began constructing medium density housing in inner city areas and suburban estates. These later schemes, which incorporated attached town houses, resulted in Neo-Radburn style housing developments.

These schemes proved popular with both economists and designers. Financially, attached housing was considered a more economical use of land and infrastructure than single detached houses. Architecturally, attached housing allowed the designer more freedom with architectural massing, elevations and repeated forms. Donald Gazzard, in his 1966 essay, 'Australian Outrage' described the design merits of attached housing:

Each group of houses can differ, in the way the houses are linked by walls and carports; the way the shapes of the houses are used to form a composition; the way the group relates to the ground shape...The eye becomes irritated by the featurism-gone-mad of petty devices tacked on to the front of houses to make them different, but delights in recognising the repeated forms and rhythms of houses arranged in a rich geometric order...²⁷

²⁶ The *Daily Telegraph*, 'Planning A Town Without Fences', 10 January, 1963, p. 9.

²⁷ Donald Gazzard, 'Australian Outrage', in *Australian Outrage: The Decay of a Visual Environment*, Royal Australian Institute of Architects, (Sydney: Ure Smith, 1966), p. 25.

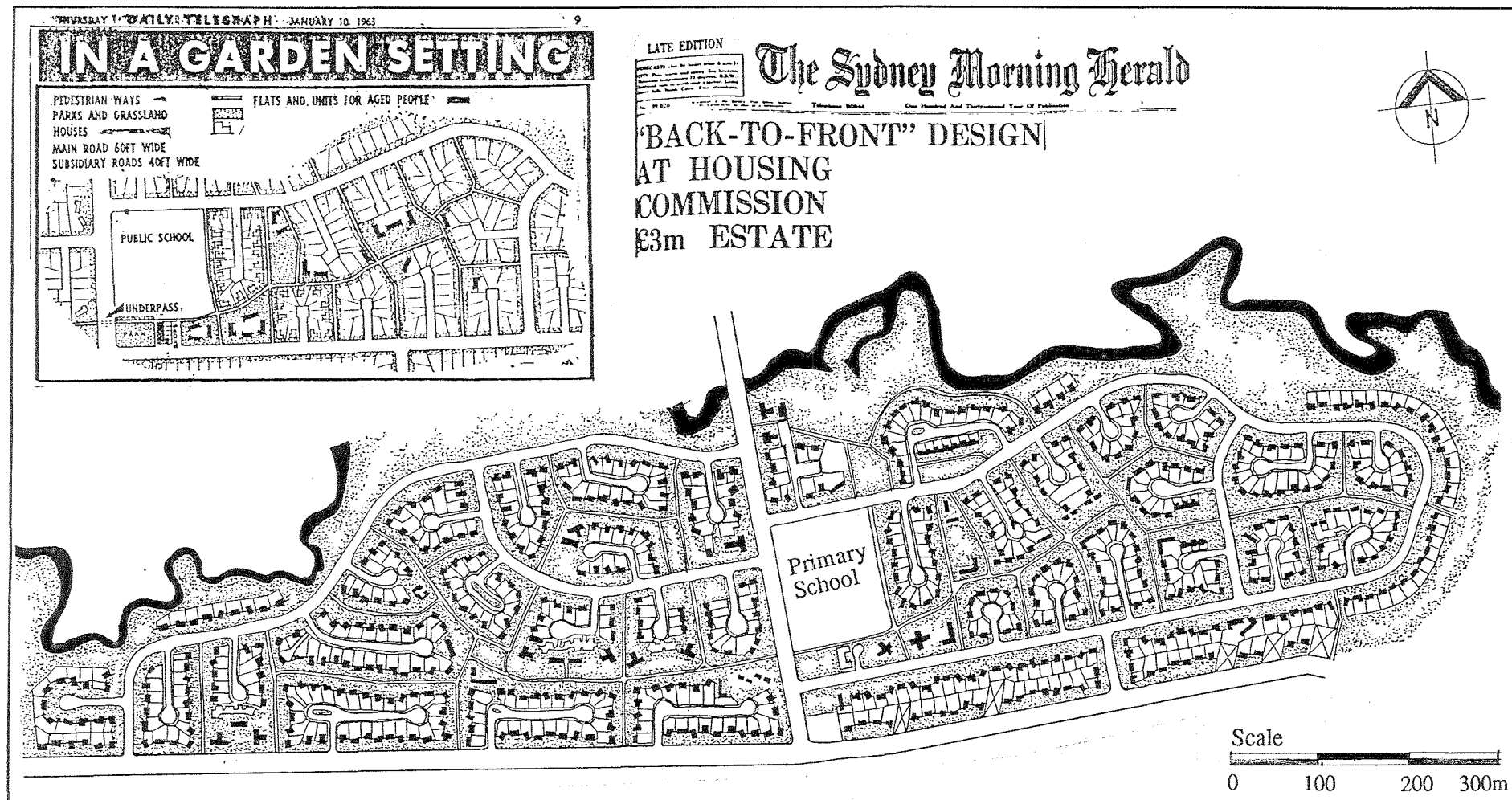


Figure 28. Site plan for Cartwright, Green Valley, together with newspaper headlines announcing the commencement of the project
(Based on plans from N.S.W. Department of Housing)

Similarly, the use of the super block and the separation of vehicular and pedestrian circulation also created more opportunity for the design of new spatial relationships in housing. For example, the individual house could either be lost in the mass nature of the housing development or it could be emphasised architecturally. In 1972, Gazzard presented a paper to a Medium Density Housing Seminar supporting the design superiority of attached housing in a mass housing development over the individual home.

We need less emphasis on the individual house - such buildings should only ever aspire to a modest reticent environmental honour as part of a whole.²⁸

The Village

This housing scheme involved the construction of attached two storey town houses in a Neo-Radburn spatial organisation. The design philosophy for this project was described as 'the development of such a scheme which would facilitate the creation of a viable and satisfying community'.²⁹ The orientation of the front of the housing towards the common open space created back to front housing, with the enclosed backyard and car port facing the street. This back to front relationship is examined in detail in Figure 29. The design placed a major emphasis on the new possibilities created by common open space. It was regarded as a unifying element for the whole design.

Each dwelling opens to the rear onto a courtyard which in turn leads to the common open space. This landscaped open space, maintained by the Commission, is continuous and is woven into the fabric of the design. It serves as a rich backdrop to the entire scheme and is a dominant element in the composition.³⁰

Building composition was also an important design consideration.

During the design process the juxtaposition of spaces and volumes and their modulated hierarchy was carefully considered.³¹

The design for The Village was typical of many medium density housing developments designed by the N.S.W. Housing Commission during the late 1960s and 1970s. These Neo-Radburn schemes were regarded by many as an appropriate form of medium density housing for Australian cities. The N.S.W. Housing Commission viewed them as very suitable accommodation, especially for family housing, in contrast to the high rise or walk-up flat. Architecturally, Neo-Radburn designs were considered superior to the individual detached house largely due to the new spatial configuration which allowed open space to act as a unifying setting for the housing mass. This design feature, together with the use of attached housing, allowed far more architectural opportunities, particularly when compared to the colloquial detached house.

28 Donald Gazzard, More honest shoemakers needed, Paper presented at Medium Density Housing Seminar by The Timber Development Association of N.S.W., November, 1972, p. 7.

29 'The Village', as described in *Medium Density Housing In Australia*, eds. Bruce Judd & John Dean, (Canberra : RALA Education Division, 1983), p. 106.

30 *ibid.*

31 *ibid.*

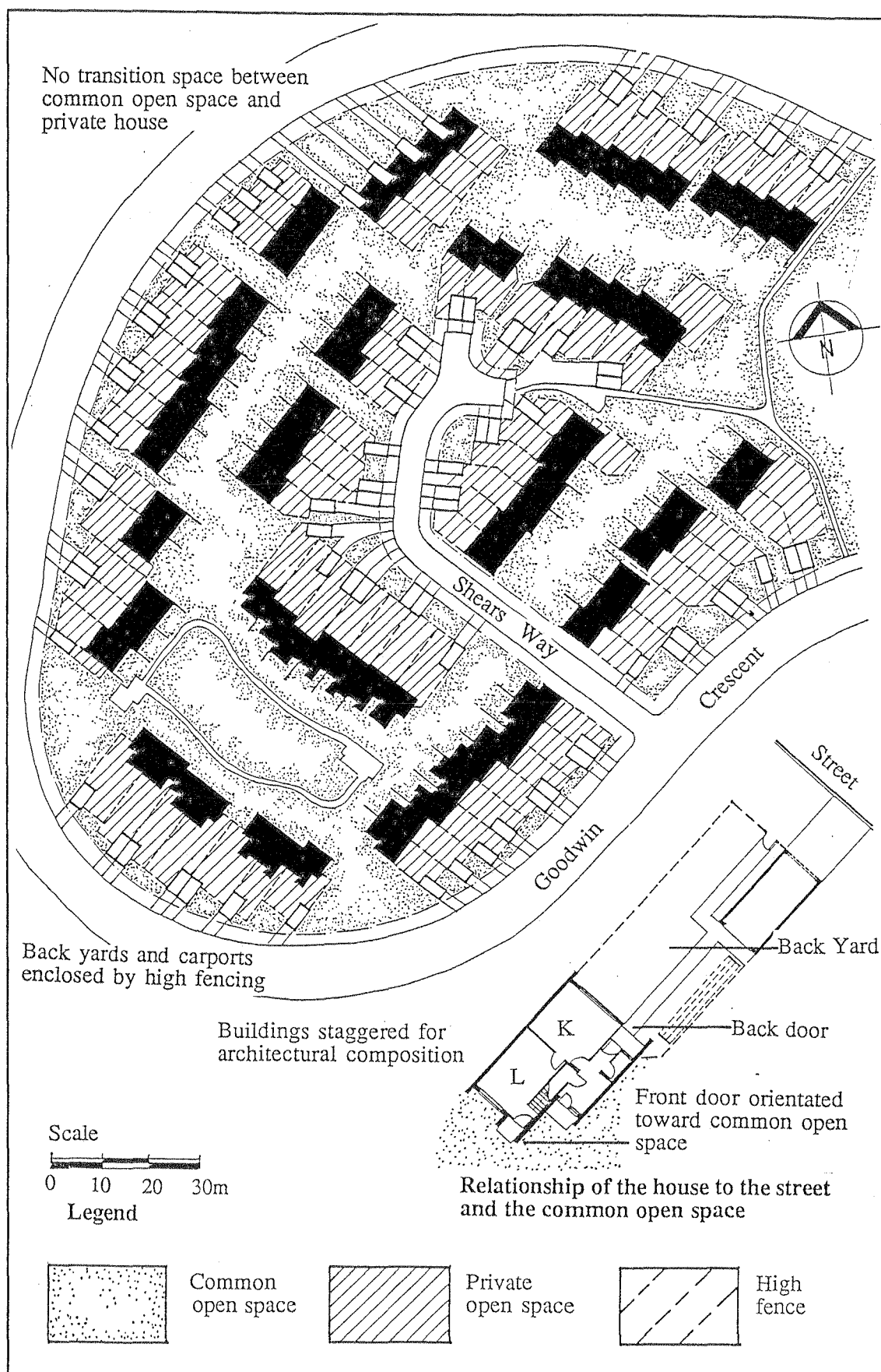


Figure 29. The Village, Minto, Neo- Radburn scheme incorporating attached two storey town houses
(Based on plan from Judd & Dean, *Medium Density Housing in Australia*, p. 106.)

HIGH RISE IN PARKLAND

Anti slum sentiment gathered momentum in the 1940s, uniting housing reformers, humanitarians, middle class moralists and politicians.³² This movement, together with the Commonwealth Housing Commission's recommendation that the States take responsibility for slum clearance, forced housing authorities to explore options for inner city housing. Redevelopment of inner city areas was appealing as unlike the development of new subdivisions, services and materials already existed.

The Housing Commission of Victoria was among the first to seriously explore high rise housing. In 1958, the Commission sent representatives to Europe to study:

- a) the construction and management of multi-storey flats;
- b) slum clearance and redevelopment, and
- c) the use of lightweight and pre-stressed concrete in flat and house construction.³³

The study recommended:

A combination of high-rise and low-level flats in slum reclamation areas to make better use of costly land (up to 50,000 pounds an acre), available essential services and proximity to transport and employment.³⁴

It was with the support of the Royal Victorian Institute of Architects, the community sector, churches and business that the Housing Commission of Victoria began a high rise housing program that earned it international praise by the end of the 1960s.³⁵

Prior to the construction of high rise elevator blocks, the authority developed a range of housing forms for the slum areas of Melbourne. This experimentation was closely linked to the development of technology at the Housing Commission's Holmesglen concrete factory. Precast concrete construction techniques were initially used for single storey housing, but in 1954 the technology was applied to two storey construction, and later to the development of three and four storey walk-up apartments. By 1964 precast concrete panels produced at Holmesglen were being used in high rise blocks.

The Commission developed a range of high rise buildings, including slab blocks, t-shaped blocks and y-shaped blocks. The site plans for high rise and walk-up apartments usually involved a High Rise in Parkland spatial

³² Allport, op. cit., p. 61

³³ The Victorian Ministry of Housing and Construction, *The High Rise at a Glance : a summary paper profiling construction of High Rise accommodation*, (unpub.), Dec 1990, p. 4.

³⁴ J. P. Gaskin & R. Burkitt, 'Some Aspects of Housing Overseas', HCV, 1959 HCV Annual Report 21, 1958-59, p. 39, as quoted in George Tibbits, 'The enemy within our gates : slum clearance and high-rise flats', in *New Houses for Old - Fifty Years of Public Housing in Victoria 1938-1988*, ed. Renate Howe, (Melbourne : Ministry of Housing and Construction, 1988) p. 144.

³⁵ 'The High Rise at a Glance', op. cit., p. 4.

organisation, incorporating super blocks, large areas of open space and rigid solar orientation.

The consolidation of existing inner city roads, lanes and building blocks into super blocks was regarded by the Commission as the most efficient way of redeveloping inner city slum areas. This is evident in the Commission's 1962 description of the Emerald Hill Court Project for the journal *Architecture Today*:

The Emerald Hill Court Project is an example of developing an area as a whole instead of piecemeal. By taking over a whole block surrounded by wide streets, the HCV has been able to replan the whole site attractively. It has eliminated wasteful roads and laneways and makes much better use of the land than the original subdivision.³⁶

This scheme, which incorporated a 16 storey tower and a number of three and four storey slab blocks, provided a site density of 155 persons per acre with only 24% of the site being covered by buildings.³⁷

The provision of large areas of open space was critical to community acceptance of high rise housing, particularly to offset opposition regarding the inappropriateness of high rise living for children.³⁸ The notion of uninterrupted areas of open space was so important that some high rise blocks were placed on Le Corbusier inspired 'pilotis'. This design concept was also applied to many four storey walk-up apartments.

The North Melbourne Estate

This housing development was completed in the early 1960s, and typical of the high rise housing constructed in Melbourne. Prior to slum clearance, the area contained 159 dwellings, housing a total of 439 people. In contrast, the high rise scheme provided accommodation for over 1,470 people in 374 dwellings.³⁹ The master plan for the estate, consisting of a central 20 storey building and a number of four storey walk-up apartments, is shown in Figure 30. Although some attempt was made to address the perimeter streets, the scheme is largely a blend of low rise and high rise housing in a parkland spatial organisation. Even the four storey walk-up apartments were raised on 'stilts' in order to continue the free flowing open space throughout the project. A government report proudly proclaimed that:

Besides a wide range of modern dwelling units, the new estate will leave 7 3/4 acres or 82% of the site unbuilt on, and this will be complete with gardens, children's playground and off-street parking for 219 cars.⁴⁰

³⁶ HCV, 'Old, Closely Settled Back Alleys Redeveloped by the Victorian Housing Commission', *Architecture Today*, May 1962, p. 22, as quoted by Tony Dalton, 'Architects, engineers and rent collectors : an organisational history of the Commission', in *New Houses for Old - Fifty Years of Public Housing in Victoria 1938-1988*, ed. Renate Howe, (Melbourne : Ministry of Housing and Construction, 1988), p. 193.

³⁷ Rolf Jensen, *High Density Living*, (Great Britain : Leonard Hill, 1966), p. 74.

³⁸ Tibbits, op. cit., p. 145.

³⁹ The Victorian Housing Commission, *The First 25 Years*, (unpub.), 1963, p. 10.

⁴⁰ *ibid.*

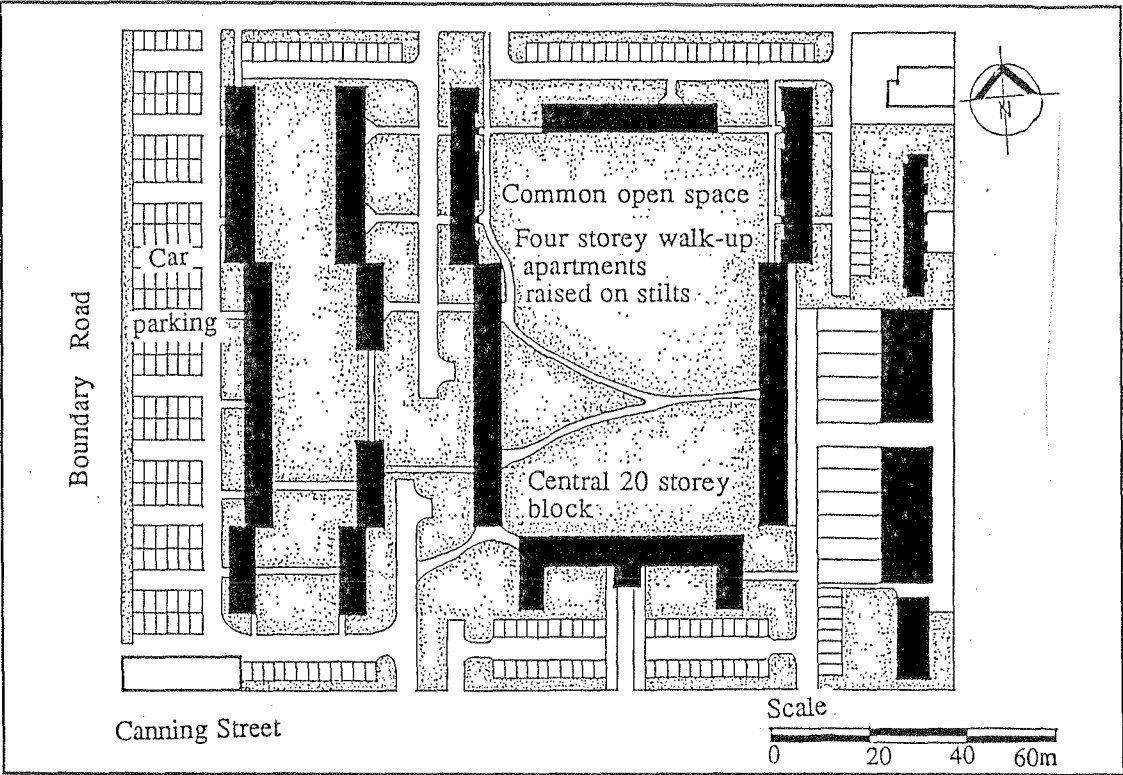


Figure 30. The North Melbourne Estate, High Rise in Parkland
 (Based on plan from Victorian Housing Commission, *The First 25 Years*)

At the time, professionals believed that high rise living would foster social interaction, with the new architecture improving physical and mental wellbeing. There was such confidence in the social desirability and economic viability of high rise that by 1968, all flats constructed were 12 storeys or higher.⁴¹ The pinnacle of the high rise program was the completion of the 30 storey high Park Towers in 1969, which was believed to be the tallest precast load-bearing wall building in the world. Ironically, within three years of opening Park Towers, the high rise program was abandoned in response to aggressive community opposition. This was not before the Victorian Housing Commission had constructed 47 high rise blocks, consisting of 33 for family housing (total of 5439 family flats) and 14 for elderly accommodation.⁴²

The N.S.W. Housing Commission did not follow the example of the Victorian high rise program. Although a number of tower blocks were constructed in Sydney, the N.S.W. Housing Commission considered high rise housing as unsuitable for family living and also expensive to construct. Consequently, the Commission placed no more than 5% of its total dwelling stock into high rise.⁴³ In contrast, a 1987 Victorian housing review concluded that high rise housing still contributed 15% of the total public housing stock.⁴⁴

41 Terry Burke, 'Public housing and the community', in *New Houses for Old - Fifty Years of Public Housing in Victoria 1938-1988*, ed. Renate Howe, (Melbourne : Ministry of Housing and Construction, 1988), p. 221.

42 Tibbits, op. cit., p. 124.

43 Ghioni, op. cit., p. 49.

44 Ministry of Housing, Estate Improvement Strategy review, Discussion paper, September 1987, p. 16, cited Tibbits, op. cit., p. 124.

LOW RISE URBAN

As discussed previously, high rise housing in Australia began to lose appeal by the mid 1970s. This was attributable to three major concerns; namely:

- 1) the suitability of high rise housing, particular for families with children;
- 2) the destruction of the inner city which was slowly being recognised for its heritage value; and
- 3) the displacement of inner city working class communities.

Similarly to overseas trends, urban housing moved towards a Low Rise Urban spatial organisation, using low rise high density housing types such as courtyard houses, patio houses, terraces and maisonettes. Often these housing types incorporated areas of private open space for the residents. Pedestrian access ways provided the urban framework, with housing clustered in precincts around squares and commons. Usually the street was reduced to car courtyards or cul-de-sacs, producing a predominantly pedestrian orientated residential environment. Larger developments also included community centres and recreational facilities which were designed as both the social and physical focus for the development.

One of the best documented examples of this philosophical change from High Rise in Parkland to Low Rise Urban is the redevelopment of the inner Sydney suburb of Woolloomooloo. Originally targeted for commercial redevelopment, Woolloomooloo became the site for Australia's first exercise in urban renewal. Examination of the redevelopment schemes provides a clear insight into the influence of Modernist spatial concepts on Australian planners and architects in the 1970s.

Low Rise Urban, however, has not been limited to urban renewal projects. In addition, many medium density housing projects constructed through out the 1980s were designed using Low Rise Urban. This spatial organisation proved popular as it could easily be adapted for both large and small scale developments and implemented with a range of housing types.

Woolloomooloo

Plans for the commercial redevelopment of the inner Sydney suburb of Woolloomooloo were first developed in the 1960s. However, clashes between residents and developers eventuated in the N.S.W. Builders Labourers Federation placing green bans on the area at the resident's request in 1973. In 1975, Federal, State and Local governments agreed to redevelop the area as a historic residential area.

Six redevelopment schemes were prepared, each demonstrating a different design approach. The high rise schemes were developed primarily as an exercise in yield but also to illustrate the inappropriateness of this redevelopment model for Woolloomooloo.⁴⁵ Public comment favoured the

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Interview, John Gregory, Manager of Technical Policy, N.S.W. Department of Housing, July 1995

three schemes which retained a high proportion of existing buildings.⁴⁶ Examination of these schemes, which are shown in Figures 31-33, reveals that although the buildings were retained for heritage reasons, the traditional spatial organisation did not earn the same respect, with the designers instead preferring to incorporate many Low Rise Urban spatial concepts.

Scheme 1, which was considered the conservation scheme, retained 238 dwellings and added 180 new two and three storey dwellings. The design aimed to preserve and enhance the existing urban fabric through the retention of much of the existing street pattern and terrace housing. The scheme still managed to introduce Modernist spatial concepts through the development of a number of distinct housing precincts. These precincts were designed free of traffic and focused upon squares of communal open space. Often infill housing was designed with front doors addressing communal squares, rather than the street. Many of the existing streets and lanes were also pedestrianised, serving to amalgamate the original street pattern into a series of super blocks.

Scheme 2 retained 166 dwellings and constructed 434 new buildings one, two and three storeys high. The existing street pattern was redeveloped into a number of cul-de-sacs which allowed the release of buildings from the street grid pattern. The buildings were strictly orientated north-west or north-east to allow maximum sunlight and breezes into the dwellings. The new housing was clustered around squares of open space, with the spatial organisation reflecting a Low Rise Urban influence. A school, community centre, shops and recreational space were designed as the focal point for the redevelopment and linked to the housing through fingers of open space. Interestingly, this scheme was most popular with non-residents, which probably would have included many design professionals given the high profile of the project.

Scheme 3 retained 90 of the best dwellings and constructed 510 dwellings which ranged in height from two to three storey. A number of existing roads were closed to create a pedestrian friendly environment. Housing was clustered around central commons to form distinct residential precincts. A central market square was located close to the school to act as a central community focus. A series of pedestrian pathways provided links between the community facilities, housing and commons of open space.

After community consultation, the final redevelopment scheme was prepared incorporating various ideas from the three popular schemes. Although the final scheme valued the existing buildings, the site plan like all of the low rise high density schemes, incorporated many characteristics of Low Rise Urban.

For example:

- a) large sections of existing streets, such as Forbes Street, were closed to traffic and designed as open space. In some cases, this resulted in historic terrace houses addressing directly onto public open space. The 'landscape' treatment of Forbes Street is shown in Figure 34;

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John Devenish, *The Woolloomooloo Basin*, (unpub.), November 1977, p. 68.

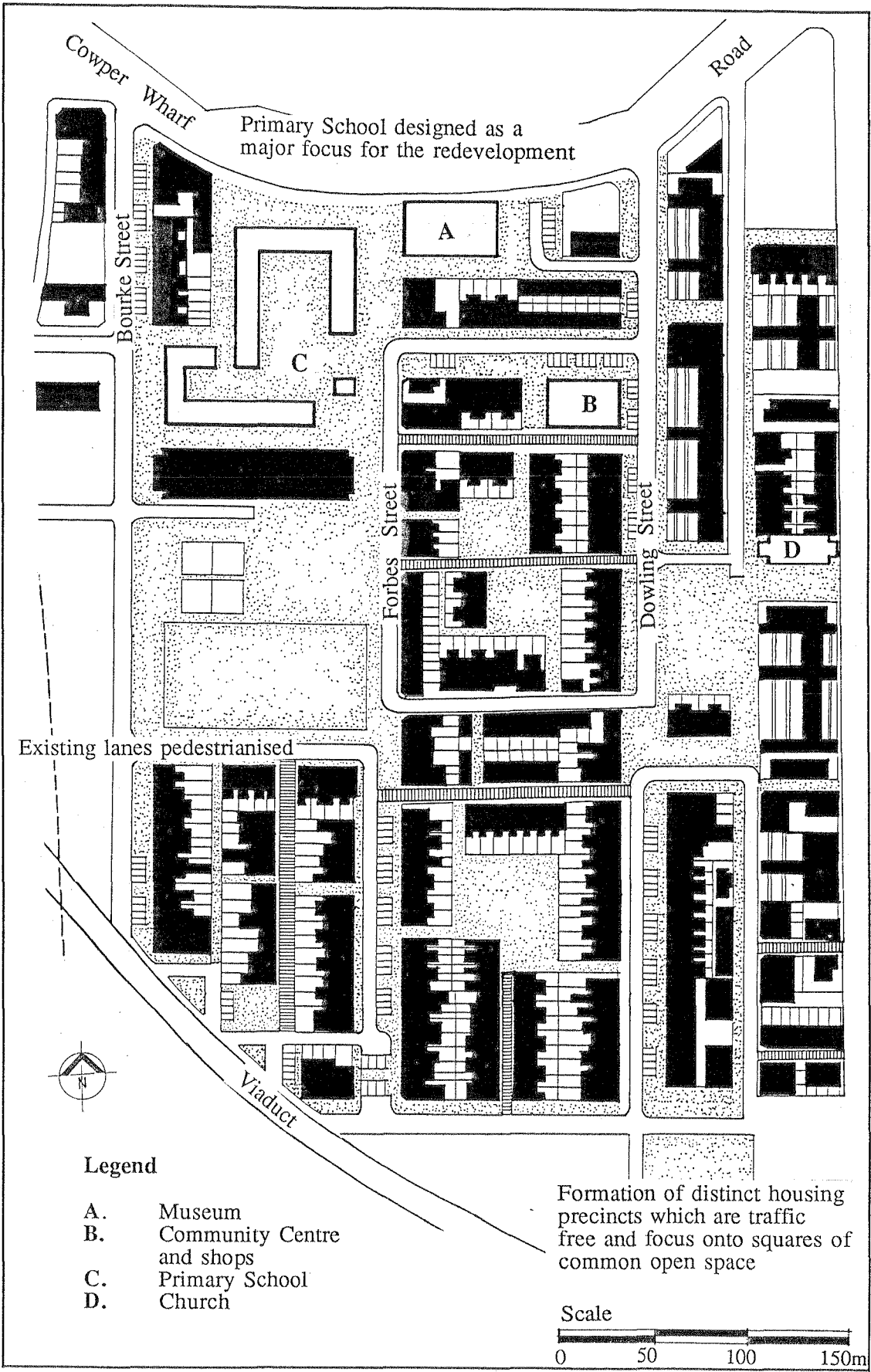


Figure 31. Redevelopment Scheme 1, the Conservation approach
(Based on plan from Devenish, The Woolloomooloo Basin, Fig. 33.)

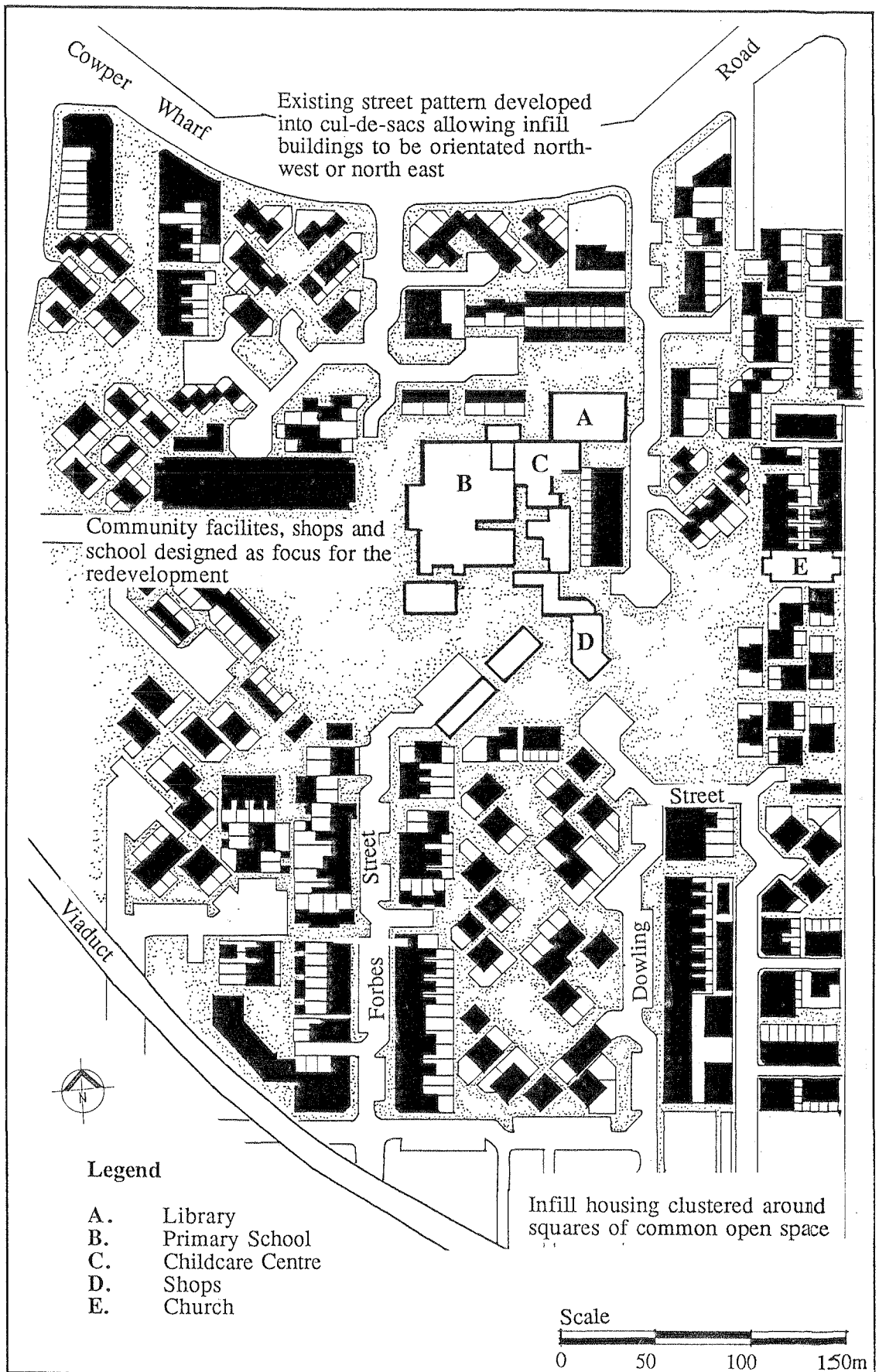


Figure 32. Redevelopment Scheme 2, the cul-de-sac approach
(Based on plan from Devenish, The Woolloomooloo Basin, Fig. 37.)

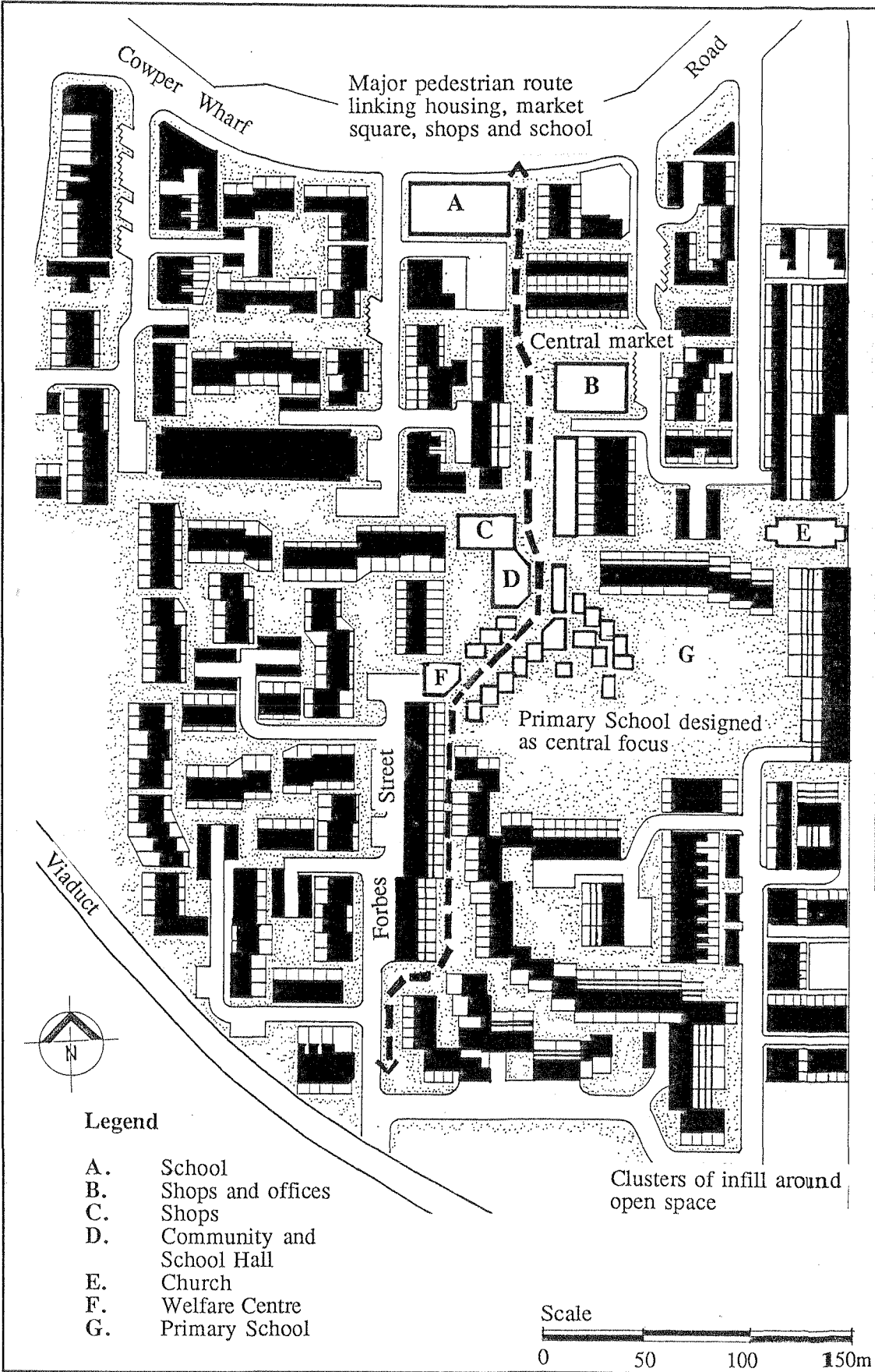


Figure 33. Redevelopment Scheme 3, the pedestrian precinct approach
(Based on plan from Devenish, The Woolloomooloo Basin, Fig. 40.)

- b) 'in contrast to the deliberate effort to encourage diversity in the buildings, the landscaping was seen as a unifying element';⁴⁷
- c) an extensive system of pedestrian paths was developed across the site with housing often facing onto a pedestrian system rather than the street;
- d) much of the infill housing was clustered around areas of common open space; and
- e) the school was designed as a central community focus, incorporating recreational space and other community facilities.

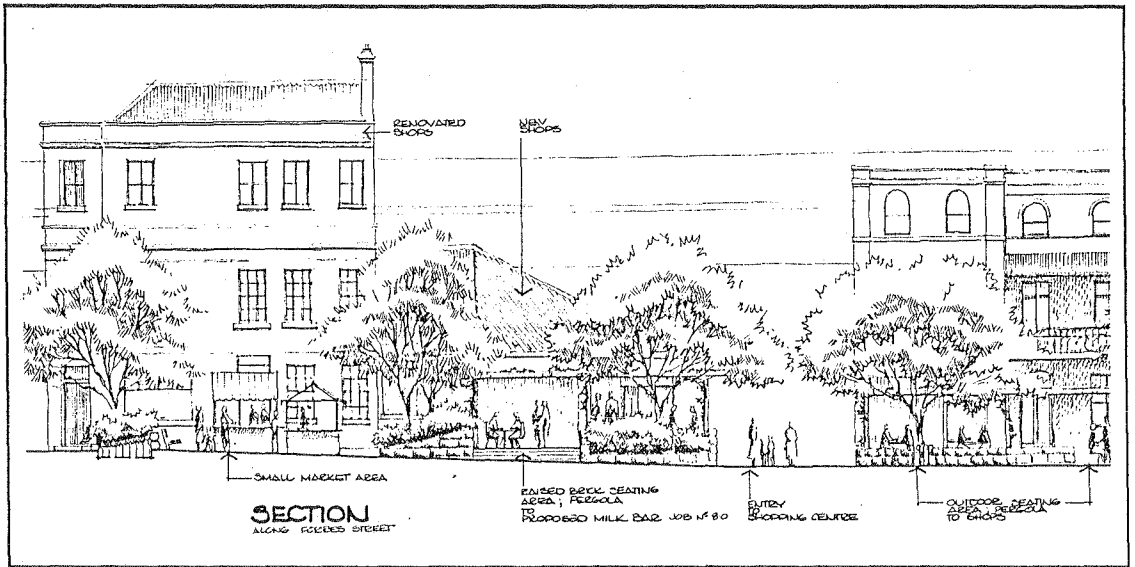


Figure 34. Detail design of Forbes Street, Woolloomooloo
(Source: Housing Commission of N.S.W, Woolloomooloo Landscape Master Plan)

Architecturally, Woolloomooloo remained diverse in character due to the mix of infill buildings (designed by different architects) with a number of existing heritage buildings. Socially, Woolloomooloo remained intact because of a strong commitment to retaining the fabric of the existing community. The traditional spatial organisation, however which formed the basic urban framework of Woolloomooloo, was not given equal consideration. Indeed the 'spatial' redevelopment of Woolloomooloo has much in common with the ideas of Walter Bunning which were outlined previously in this chapter - in particular his concept for developing 'neighbourhoods' in existing suburbs.

Similarly to Bunning's proposal, the existing street pattern was modified to form a series of super blocks. Integral to the redevelopment was the provision of a central community node, which in the case of Woolloomooloo included the school, community centre and associated recreational facilities. This area was designed as the central focus for the redevelopment - thus creating a variation of Perry's 'neighbourhood unit'. These features are evident in the final site plan illustrated in Figure 35.

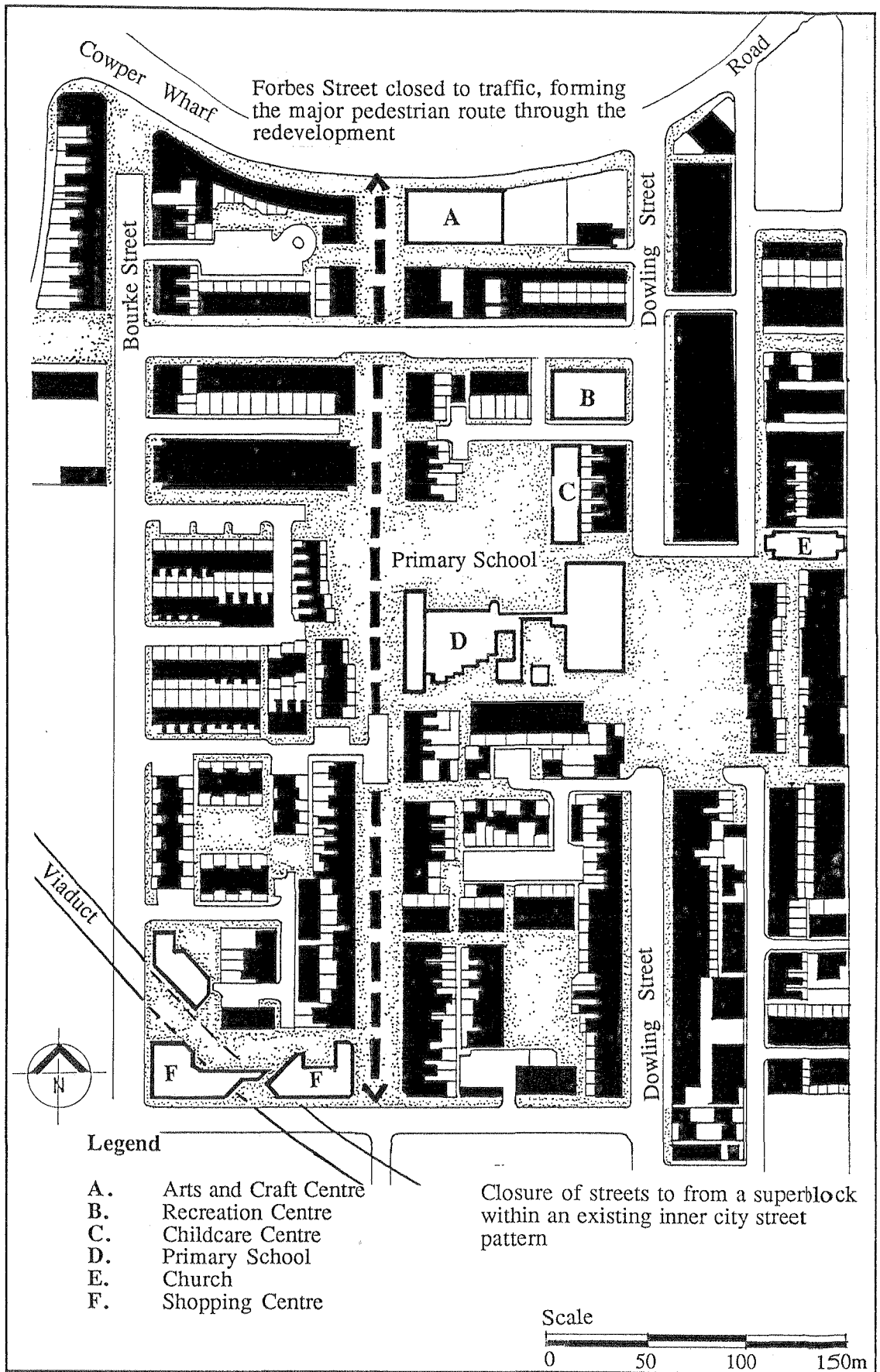


Figure 35. Final Redevelopment Scheme for Woolloomooloo
(Based on plan from N.S.W. Department of Housing, The Woolloomooloo Project.)

Villawood

The redevelopment of a 7.68 hectare site in Villawood, Sydney demonstrates the use of Low Rise Urban concepts in the design of a large medium density housing project. This project, which was completed in 1981, consists of 253 two, three and four bedroom dwellings and associated community facilities. The development involved the amalgamation of existing suburban blocks into a large super block. The surrounding context of the site was deliberately ignored due to the 'bland and flat nature of the area'.⁴⁸ Even when housing was located adjacent to the existing streets, buildings were orientated for sunlight rather than to squarely address the street.

Low density housing such as town housing and courtyard housing was 'clustered' around nodes and squares, which were linked by a continuous pedestrian walkway. The back of the housing faced on to common car courts which included communal garages. Denser housing, in the form of maisonettes, addressed a large common area of open space which created the focus for the whole development. Typical of Low Rise Urban concepts, the pedestrian path system (or as it was often referred - the pedestrian street) formed the major unifying element for the housing development:

It runs throughout the development with a series of experiences ranging through private enclosed space, neighbourhood square, pedestrian street, community centre to playing fields.⁴⁹

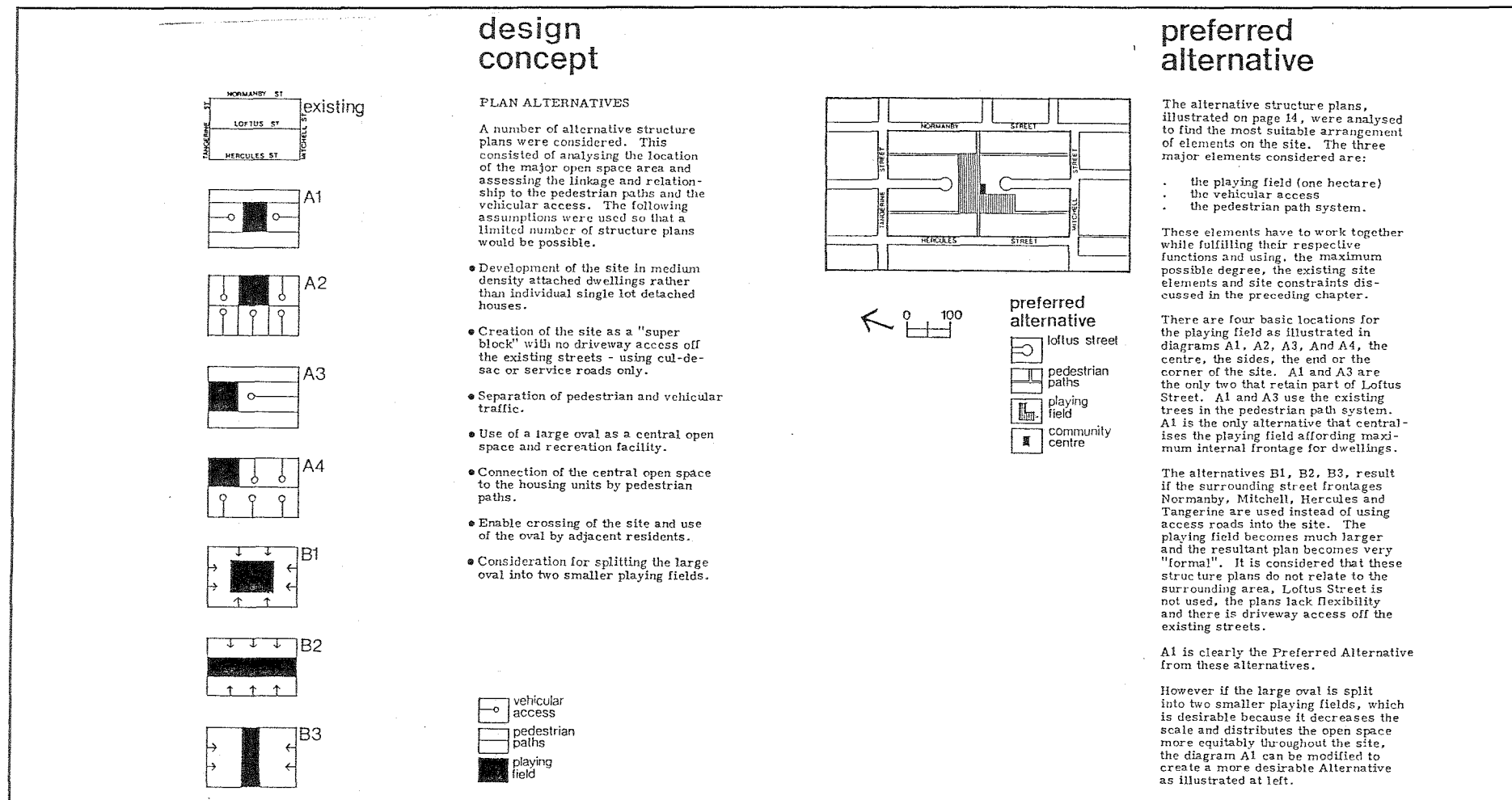
Although the housing was grouped into specific spatial precincts, (clusters around common open space), no effort was made to architecturally distinguish individual houses. The buildings were designed as a unified mass, with little distinction in form, materials, colours or detail. The introspective nature of the site plan deliberately created an enclave development, turning its back on the rest of the neighbourhood. It establishes a 'sense of community' through physical isolation. Figure 36 shows examples of analysis used to justify the creation of the super block and hence an housing enclave.

Central to the site plan, illustrated in Figure 37, is the large area of open space. This area in conjunction with a community centre, was designed to be the focus for the entire development.

Both Villawood and Woolloomooloo demonstrate the acceptance of Low Rise Urban in the 1970s and 1980s as a spatial concept for medium density housing and inner city redevelopment. Like overseas experience, this model was regarded as more appropriate than other denser housing forms such as high rise and walk-up apartments. Unlike Neo-Radburn, which produced a sylvan residential development, Low Rise Urban produced housing which was considered more urban in character. Consequently it became accepted as an appropriate urban housing form, both architecturally and socially, for Australian cities.

⁴⁸ Housing Commission of N.S.W. in association with Philip Cox & Partners, Redevelopment at Villawood, Site 9003, (unpub.), December 1976, p. 13.

⁴⁹ *ibid.*, p. 18.



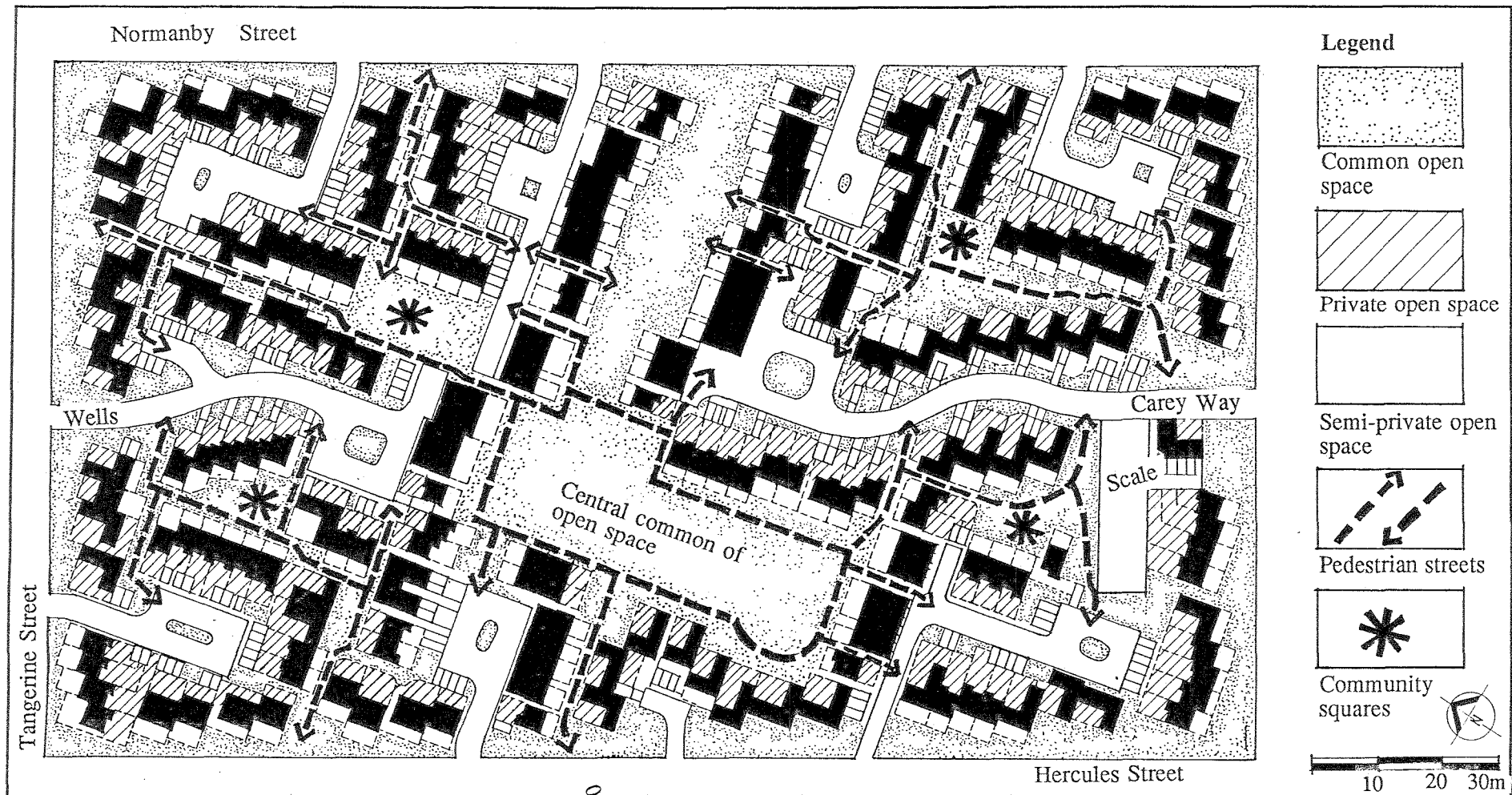


Figure 37. Master plan for Villawood, a Low Rise Urban housing development incorporating 253 two, three and four bedroom dwellings
 (Based on plan from Housing Commission of N.S.W, Redevelopment at Villawood, p. 15.)

THE PRIVATE SECTOR

The application of Modernist housing principles within the private sector was initially restricted by the lack of appropriate legislation to enable shared ownership of common facilities. This was not a concern within public sector developments as the government retained ownership of the properties and hence the responsibility for the maintenance of the housing and common facilities. However until the 1960s, private sector development was constrained due to issues of ownership and legal title.

Prior to the 1960s, flats and apartment buildings which had shared ownership of land and facilities, were constructed using legislation such as Company Title. According to Bruce Judd, the problems associated with this title may have contributed to the tendency for flats to be rented rather than sold for owner occupation.⁵⁰ In response, the government developed Strata Title legislation, beginning in Victoria in 1960, which allowed a building and its block of land to be subdivided into separate allotments with shared ownership of the land and common parts of the building.⁵¹ This enabled residents to own their apartment on a freehold basis (similar to detached houses) with a body corporate responsible for the maintenance of common property.

Developers and designers soon realised that through legislation such as Strata Title, spatial organisations which involved common facilities could also be owned on a freehold basis. As a result, Strata Title was used to construct horizontally attached houses, allowing the application of Neo-Radburn spatial concepts. There were still many problems, however, associated with the application of Strata Title. For example, all dwellings in the development had to be completed before any could be legally purchased. The necessity of attaching housing also restricted many design opportunities. With time, new legislation such as 1975 Victorian Cluster Titles Act and the 1989 N.S.W. Community Title permitted the private sector more flexibility in the construction of Modernist housing.⁵²

Despite changes to legislation, private sector housing was usually constructed at a smaller scale to that of the public sector. Rarely could the developer co-ordinate or finance the development of the super block. Medium density housing designed in Canberra during the 1970s, demonstrates the application of large scale Modernist housing principles, outside of low income public housing. Although a Federal government initiative, these projects were designed as models appropriate for both the public and private sector. Other influential housing developments include Winter Park, an early private development highlighting the design opportunities of cluster housing and the high rise apartment schemes designed by Harry Seidler.

⁵⁰ Judd, op. cit., p. 18.

⁵¹ Judd, op. cit., p. 18.

⁵² Judd, op. cit., p. 19.

Swinger Hill

'Swinger Hill' was one of the earliest medium density housing schemes constructed in Canberra by the National Capital Development Commission. In 1970, Robin Boyd heralded the design as the 'first substantial revolt against suburbia ever to be made in Australia'.⁵³ The scheme was designed primarily within a Neo-Radburn spatial organisation. In his article 'Waking from the suburbia dream', Boyd described the features of the design as:

...a single entity. In the centre is a community core, with some shops, pre-school and mothercraft facilities, and some old-people's housing nearby. Three main house groups are separate but interdependent, and each contains a range of the different housing types. Open pedestrian ways extend from the central core in four fingers forming very roughly an X. Near the centre one of the fingers opens out into a wide area called "The Common"...All this central space is, of course, free of vehicles. Car parking is generally grouped in motor courts...Among the house groups there are other open spaces; levelled areas for communal games, and cul-de-sacs for more fun...⁵⁴

The scheme incorporated many Modernist spatial elements, with large communal spaces forming a central feature of the design. The housing was designed as a series of repetitive units, with the development possessing a total unity through:

...reliance on strict orientation: irrespective of contours and curves in the streets, all buildings will run due north-south or precisely at 45 degrees to that, which gives it the jet-set fashionable diagonal look.⁵⁵

This 'jet set' siting is evident in the site plan which is shown in Figure 38.

Robin Boyd, like many Australian designers in the 1970s, regarded the use of Neo-Radburn spatial organisation, together with standardised dwelling units as a far superior residential environment to that provided in the suburbs. For Boyd, the suburbs lacked identity, whereas Modernist housing developments such as Swinger Hill 'make a compact place, a strong and identifiable place with which its people will, or should be, proud to identify'.⁵⁶

Winter Park

This development, although no denser than detached housing on individual blocks, aimed to demonstrate new possibilities for open space in detached housing. The design involved the siting of detached housing around a common driveway to form a 'cluster'. The architect Graeme Gunn felt that this arrangement (which is similar to a Neo-Radburn configuration) offered many design advantages:

Greater privacy was made possible by better definition of space within and around the dwelling. This was achieved by careful co-ordination of dwelling orientation, landscaping, placement of carports, screens and communal car and pedestrian access zones. The space economy achieved by clustering dwellings

53 Robin Boyd, 'Waking from the suburbia dream', in *Architecture in Australia*, Feb 1970, p. 78.

54 *ibid.*, p. 83.

55 *ibid.*, p. 83.

56 *ibid.*, p. 84.

permitted a large communal parkland shared by residents. This open space was immediately accessible to all dwellings, providing a safe, large children's play space which could be easily supervised from each house. The communal parkland was controlled and maintained by corporate ownership - including all residents in the development.⁵⁷

The integration of common open space within the housing developments was regarded as a major design feature of Winter Park. This is illustrated in Figure 39, where the design is compared to a more conventional subdivision. The developer of the project also shared the architect's enthusiasm for the common open space, believing that it provided 'a focus, much the same as old English villages relied on the common as the focus of community life'.⁵⁸

Blue Point Towers

Viennese born architect, Harry Seidler arrived in Australia in the late 1940s, after completing his architectural studies at Harvard. It was during his education in America, that Seidler was introduced to many Modernist housing concepts, principally through the teachings of Walter Gropius, Martin Wagner and Marcel Breuer.⁵⁹

Through his work for both the private and public sector, Seidler produced many Modernist designs for housing. In 1969, for example, Seidler in conjunction with the Lend Lease Corporation, designed a new town project for Campbelltown, near Sydney. This scheme incorporated concepts such as the neighbourhood unit and a Neo-Radburn spatial organisation.⁶⁰

Seidler's most valuable contributions to Modernist housing, however, were his High Rise in Parkland schemes. One of his most notable was for the redevelopment of McMahon's Point in North Sydney. In 1957, Seidler, together with a group of young architects, developed a purely diagrammatic planning scheme illustrating the merits of high rise housing. The housing was designed using a tiered principle, with low buildings placed on the waters edge, and the high rise sited on the ridge top in order to maximise views and orientation. As shown in Figure 40, all buildings were surrounded by a large continuous parkland.

Only one tower, Blues Point Tower was ever completed. This building was 23 storeys high and contained a total of 168 flats. A major design feature was the diagonal siting of the tower block which allowed the apartments to avoid direct west or east orientation. This enabled as many apartments as possible to have views in two directions and cross ventilation.⁶¹ The remainder of Seidler's scheme was never realised, leaving Blue Point Towers as a lasting reminder of one Modernist's vision for Sydney Harbour.

57 Graeme Gunn, Architect's statement in Howard Tanner, *Australian Housing in the Seventies*, (Sydney : Ure Smith, 1976), p. 131.

58 Sandy Pearce, 'Gambling on togetherness', *The Bulletin*, July 11, 1970, p. 51.

59 Kenneth Frampton & Phillip Drew, *Harry Seidler : Four Decades of Architecture*, (London : Thames & Hudson, 1992), p. 17.

60 Freestone, *Model Communities*, op. cit., p. 221.

61 Jensen, op. cit., p. 67.

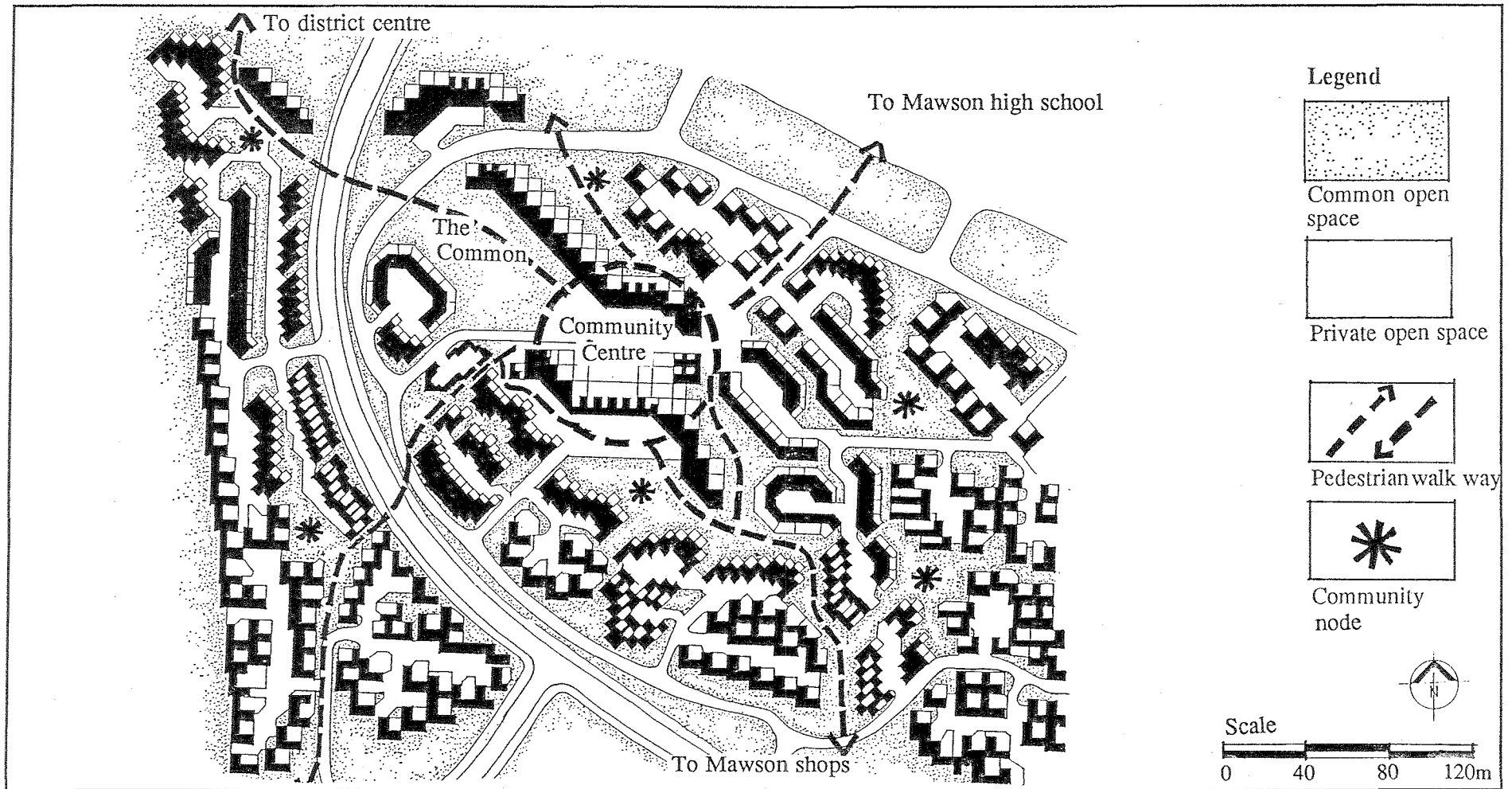


Figure 38. Master plan for Swinger Hill, ACT, note the strict reliance on building orientation, either north-south or precisely at 45 degrees to that (Based on plan from Boyd, 'Waking from the suburbia dream', p. 76.)

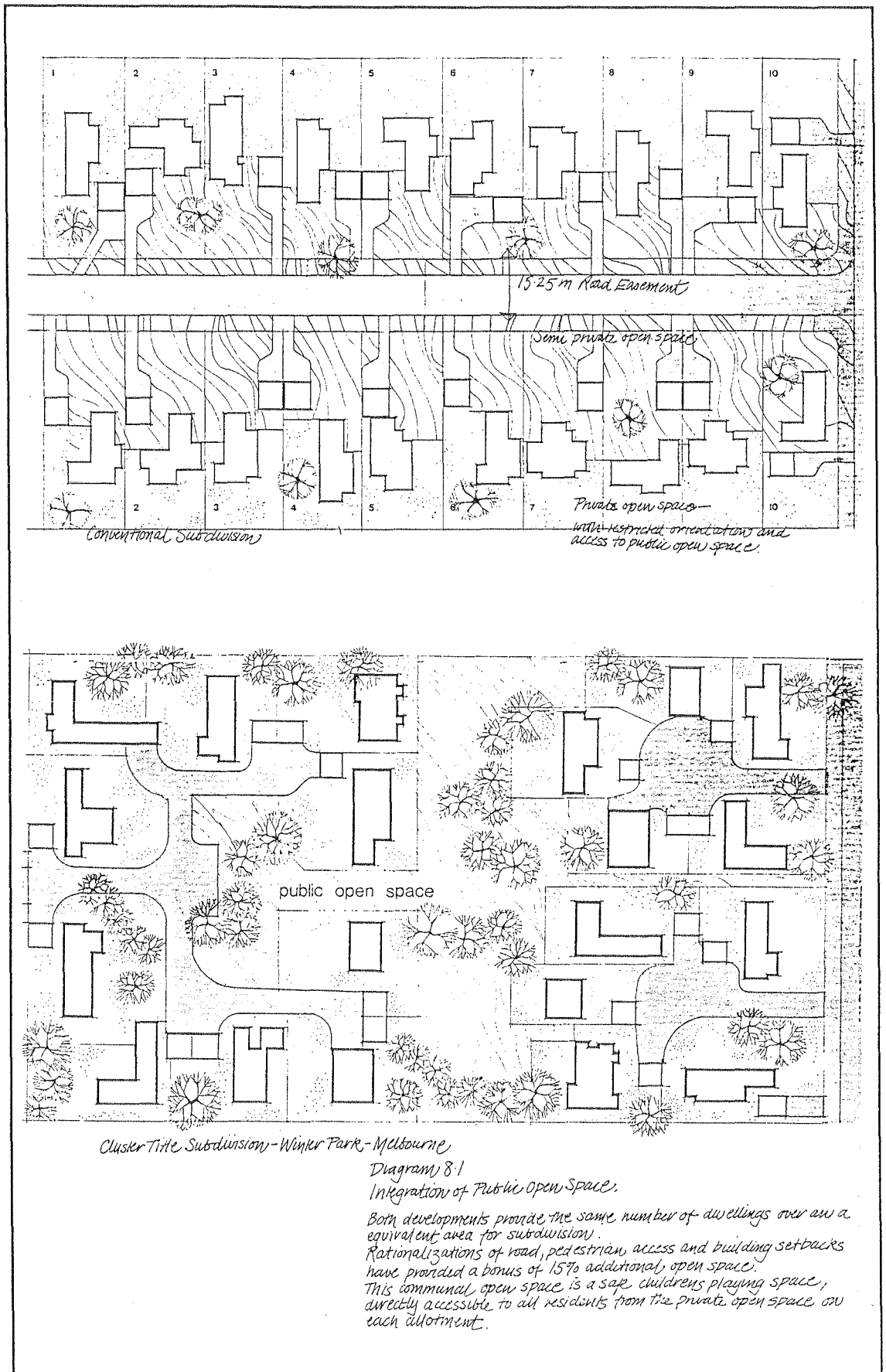


Figure 39. Analysis supporting the use of a Cluster subdivision at Winter Park
(Source: Paterson, Yencken & Gunn, *A Mansion or No Home*, pp. 76-7.)

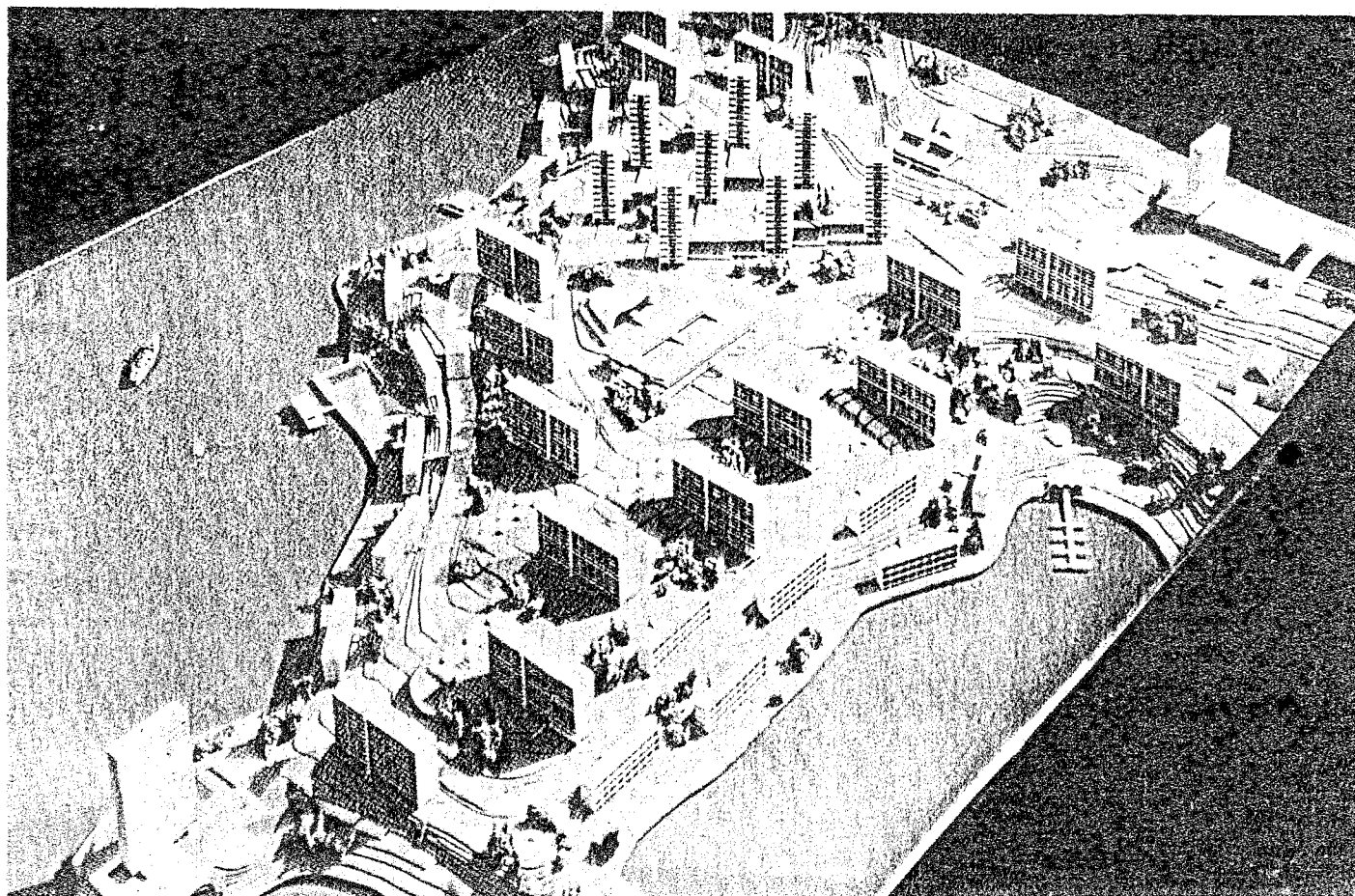


Figure 40. Model of Seidler's redevelopment proposal for McMahon's Point, Sydney
(Source: Spearritt & De Marco, *Planning Sydney's Future*, p. 48.)

* * *

Over the last 50 years many Modernist spatial principles have been incorporated into the design of Australian urban housing. These ideas first reached Australia during a time of post war idealism when the provision of housing and the establishment of a modern post war society were important concerns. These concepts, which placed great emphasis on the design of complete communities, were enthusiastically received, particularly by the State Housing authorities who were responsible for providing much of the housing. Although these authorities were largely committed to the detached house, they did utilise many Modernist spatial concepts, particularly in slum clearance areas. They undertook this work not for economic measures, but in good faith that Modernist ideas, particularly the new spatial organisations, would create healthy residential environments where people would develop a 'sense of community'.

Similarly to developments overseas, high rise housing began to lose favour in the 1970s as an appropriate housing model for Australia. Neo-Radburn and Low Rise Urban spatial organisations were considered more appropriate for medium density housing and applied extensively throughout the 1970s and 1980s. This trend was also replicated in private sector developments. Although these projects were not usually of the scale of many government projects, they shared many of the same spatial characteristics.

Australia followed a worldwide trend, freely accepting Modernist housing principles and modifying them in accordance to overseas trends (although often with a considerable time lag). Modernism also contributed to the development of an anti-suburb sentiment amongst many Australian design professionals, particularly architects. Many architects developed a preference for the aesthetics of Modernist housing and the associated spatial organisations which provided added design flexibility. Moreover, Modernist housing offered visual relief from the individual detached house which was considered by many as 'featurism-gone-mad'.

In 1961, Habraken, an outspoken critic of Modernist housing described living as:

...an act which takes place in two realms, the public and the private...Living exclusively in the public realm is tantamount to institutionalisation. Living exclusively in the private realm is a kind of exile. The dwelling must therefore straddle both spheres.⁶²

Prior to Modernism, Australian housing developed very much in the private realm, although not exclusively. Specific spaces such as the semi-private front yard provided a transition between the public and private domain. The spaces between the internal house and the public street regulated privacy, territory and provided an individual frontage to the public world - the street.

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N. J. Habraken, *De Draggers en de Mensen*, (Amsterdam : Scheltema and Holkema, 1961), as quoted in Martin Pawley, *Architecture Versus Housing*, (London : Studio Vista, 1971), p. 96.

Modernist spatial theory significantly altered this balance, reducing or in the case of high rise, totally eradicating the concept of private or semi-private spaces. The internal area of the dwelling was regarded as private with the surrounding external spaces being treated as common or public.

Modernist spatial concepts appear to be in conflict with many aspects of traditional Australian spatial organisation. This conflict occurs primarily due to the Modernist emphasis of the mass or collective over the needs of the individual. In accordance with Habraken's quote, it can be assumed that Modernist spatial concepts result in an institutional rather than domestic residential environment.

This concept will be explored in detail in the following chapter.

CHAPTER IV

EVALUATION OF MODERNIST SPATIAL CONCEPTS

This chapter does not intend to establish a 'winner' between Modernist and traditional spatial concepts. Instead, it will use the opportunity to study the extremes represented by the two concepts - communal versus private and mass versus the individual, to establish the importance and role of spatial organisation in Australian housing.

Research indicates that it is difficult for people to articulate many of their feelings about home.¹ That is unless they have had certain qualities restricted or denied. Modernism, particularly in regard to the organisation of space and dwellings, represents an extreme approach when compared to the traditional spatial organisation of Australian housing. Therefore evaluating the success of these models from the resident's point of view, not only allows an insight into the success of Modernism, but also allows a better understanding of the attributes of home.

Traditionally housing research has been conducted within the boundaries of specific disciplines; for example:

- the design profession has generally focused on issues regarding architectural form, particularly the dwelling unit; and
- behavioural scientists have studied the relationship of human behaviour to the built environment

This research is valuable but alone it presents a very limited basis for determining design direction. In order to establish the components of home, it is necessary to examine not only formal qualities of housing but also connotative and pragmatic qualities.² Consequently, this chapter includes a range of studies from a number of disciplines in order to establish a broad understanding of the role of spatial organisation in housing. Sources include:

- a) post-occupancy evaluations of Modernist housing projects;
- b) studies of traditional domestic space in housing;
- c) social research regarding home within the context of multi-cultural Australia; and
- d) studies concerning behavioural conventions in housing.

¹ Ross Thorne, 'Housing as "home" in the Australian context', in *Australian and New Zealand Journal of Person-Environment Studies*, no. 36, 1991, p. 54.

² Roderick J. Lawrence, *Housing, Dwellings and Homes : Design Theory, Research and Practice*, foreword by David Stea, (Chichester, England : John Wiley, 1987), p. 18.

POST-OCCUPANCY EVALUATIONS

The following post-occupancy evaluations include both public and private sector developments. It is necessary to distinguish between the two in order to determine the impact that legal ownership has on the resident use and perception of housing. Additional social and financial pressures associated with public housing residents obviously has a large bearing on how people perceive their housing. Often residents have had little choice in determining where they live and many aspects of discontentment can be traced to factors outside of housing design. However, it is clear that many problems can be related back to particular aspects of design - particularly spatial organisation and the sharing of communal facilities.

Neo-Radburn

The N.S.W. Department of Housing has carried out numerous post-occupancy evaluations of their Neo-Radburn housing projects. This study will examine a 1983 post-occupancy³ of Neo-Radburn attached housing in Campbelltown, Sydney. The findings of this report are representative of many Neo-Radburn housing estates in Sydney.⁴ The housing known as 'The Village', which was described previously in Chapter III, formed part of the evaluation. The following outcomes, although indicative of other areas in the study, relate specifically to 'The Village'.

In general, over 75% of residents were satisfied with the design of their dwelling units.⁵ The spatial organisation, however, was a major concern for residents. The major issues are discussed below, and are also summarised in Figure 41.

The 'back to front' orientation of the housing was the source of many problems. This siting created much confusion with the address of the house, with even interviewers for the study (who had plans of the housing) experiencing difficulties in locating the front door.⁶ In a traditional spatial organisation, guests enter through the formal part of the house and the front yard which faces the street. With the Neo-Radburn organisation, visitors who usually arrived by car, enter the house through the back yard and back door.

People have to go through my washing to get to my front door.

Why do they put houses back to front? Your clothesline is on the street.⁷

This confusion with the address of the housing also created major problems for police, emergency vehicles and deliveries.

³ Wendy Sarkissian & Terry Doherty, *Living in Public Housing : A Report on a Tenants' Evaluation of Medium-Density Public Housing in Suburban Sydney*, Housing Issues no. 2., (Canberra : RAIA Education Division, 1987)

⁴ Interview with John Gregory, Manager of Technical Policy, N.S.W. Department of Housing, 12.10.95.

⁵ Sarkissian & Doherty, op. cit., p. 57.

⁶ Sarkissian & Doherty, op. cit., p. 45.

⁷ Sarkissian & Doherty, op. cit., p. 45.

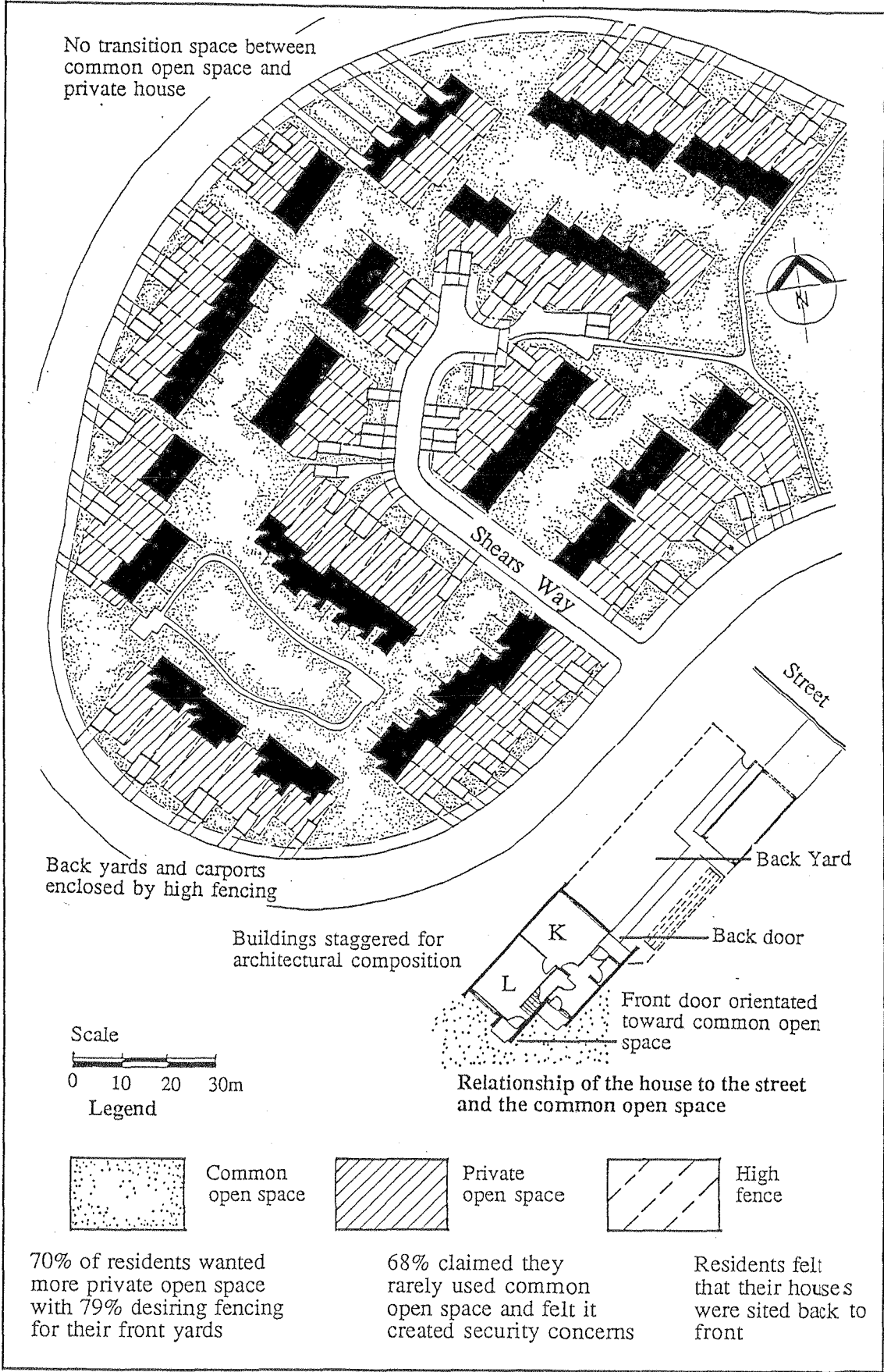


Figure 41. Problems associated with The Village, a Neo-Radburn spatial organisation
(Based on plan from Judd & Dean, *Medium Density Housing in Australia*, p. 106.)

The large areas of common open space were rarely used by residents. Only 10% of residents used this space often, compared to nearly 68% who claimed they rarely or never used it.⁸ In contrast, almost 70% of residents wished for a larger backyard,⁹ indicating that private open space was regarded as far more valuable than common open space.

The poor definition of front yards was viewed as another significant problem. The front yard was valued as a place to individualise housing through activities such as gardening. However, the residents felt that their efforts would be futile unless their gardens were defined by front fencing. 79% of all residents believed that front yard fencing was a good idea,¹⁰ although not for visual privacy, but instead to protect gardens from dogs, children and strangers. As one resident explained:

I built a fence around my front yard when I moved in. At times I feel like sprinkling purple spots on it or something. I mean, they are all the same: uniform. It's like being in an army.¹¹

The separation of pedestrian and vehicular circulation and the provision of large areas of common open space created many security concerns. Over 47% of residents indicated that they never go out alone at night.¹² Many felt that the physical design, particularly the areas of common open space, provided places for intruders to hide. Also the placement of high fenced back yards adjacent to the street provided little surveillance for the street.

The use of a Neo-Radburn spatial organisation established a confusing relationship between the housing, the streets and public domain. Residents perceived their housing as 'back to front'. This together with large areas of unused common open space contributed to a stressful residential environment.

High Rise In Parkland

Two evaluations will be considered; the first focuses on walk-up and high rise accommodation in Sydney, and the second provides a more detailed account of residential life in a High Rise in Parkland development in Melbourne.

In 1974, the N.S.W. Housing Commission, together with the School of Behavioural Sciences from Macquarie University, surveyed 250 residents in both walk-up and high rise accommodation. The final study 'Walk-Up or High Rise?'¹³ concluded that there was little difference between the attitudes of the walk-up and high rise residents. Apart from physical problems with lifts and difficulties with children, high rise residents did not appear more dissatisfied with their accommodation than those living in walk-ups.

⁸ Sarkissian & Doherty, op. cit., p. 47.

⁹ Sarkissian & Doherty, op. cit., p. 48.

¹⁰ Sarkissian & Doherty, op. cit., p. 49.

¹¹ Sarkissian & Doherty, op. cit., p. 49.

¹² Sarkissian & Doherty, op. cit., p. 37.

¹³ Dr A. J. Sutton, Walk-Up or High Rise?: Residents views on public housing, School of Behavioural Sciences, Macquarie University, 1974.

This result can be partly understood by the similar spatial organisation of the housing. The study involved both old and newly completed high rise and walk-up buildings within the inner city. Although the buildings differed greatly in height (ranging from 17 storey towers to three storey walk-ups), all were designed within a Modernist landscape of common open space, with buildings sited primarily for orientation. No apartments had direct access to private or semi-private open space, with residents instead relying solely on communal facilities. Figures 42 and 43 show typical examples of walk-up and high rise housing schemes which would have formed part of the housing study.

Of particular interest was the survey of external space use. Over 59% of walk-up residents and 69% of high rise residents used the common open space as little as possible. Only 13% of walk-up residents and 4% of high rise residents spent a lot of time in the grounds. As a result, 63% of walk-up residents and 70% of high rise residents felt that their domestic activities such as sun baking, gardening, pets and children's play were limited by the lack of private open space.

In 1982, the Victorian Ministry of Housing conducted an evaluation of high rise housing in Collingwood. This housing development is typical of a High Rise in Parkland approach, involving slab tower blocks surrounded by large areas of common open space. Generally residents were neutral to fairly positive about issues concerning the size and comfort of their flat and the location of the housing.

In relation to their **physical environment**, residents stated that they used their external grounds very rarely - on average less than once a month, with nearly half admitting that they never use the grounds. The report concluded that:

It seems likely that this low level of usage (at least by adults) is only partly a function of the physical qualities of the grounds. One of the main contributing factors would seem to be a general feeling that the estate grounds do not belong to the residents in any real sense. This feeling is in turn a function of the almost complete lack of any sense of community amongst the residents.¹⁴

In terms of **social environment**, most residents had little social contact with their neighbours; on average residents knew less than two people on their floor with one third not knowing anyone. The report concluded that although public housing did bring a range of sometimes mismatched people together - causing conflict or tension, high rise exacerbated the situation as:

High rise flats do not allow for spatial control of privacy because there are no intermediate spaces between the totally public areas and the totally private flat. Moreover, privacy-control is further inhibited because the flats are subject to auditory and visual intrusions. Thus, for many residents the only workable method of privacy control is to totally ignore one's neighbours.¹⁵

¹⁴ Victorian Ministry of Housing, High rise attitude survey : Estate improvement program', July 1982, (unpub.), p. 50.

¹⁵ *ibid.*, p. 55.

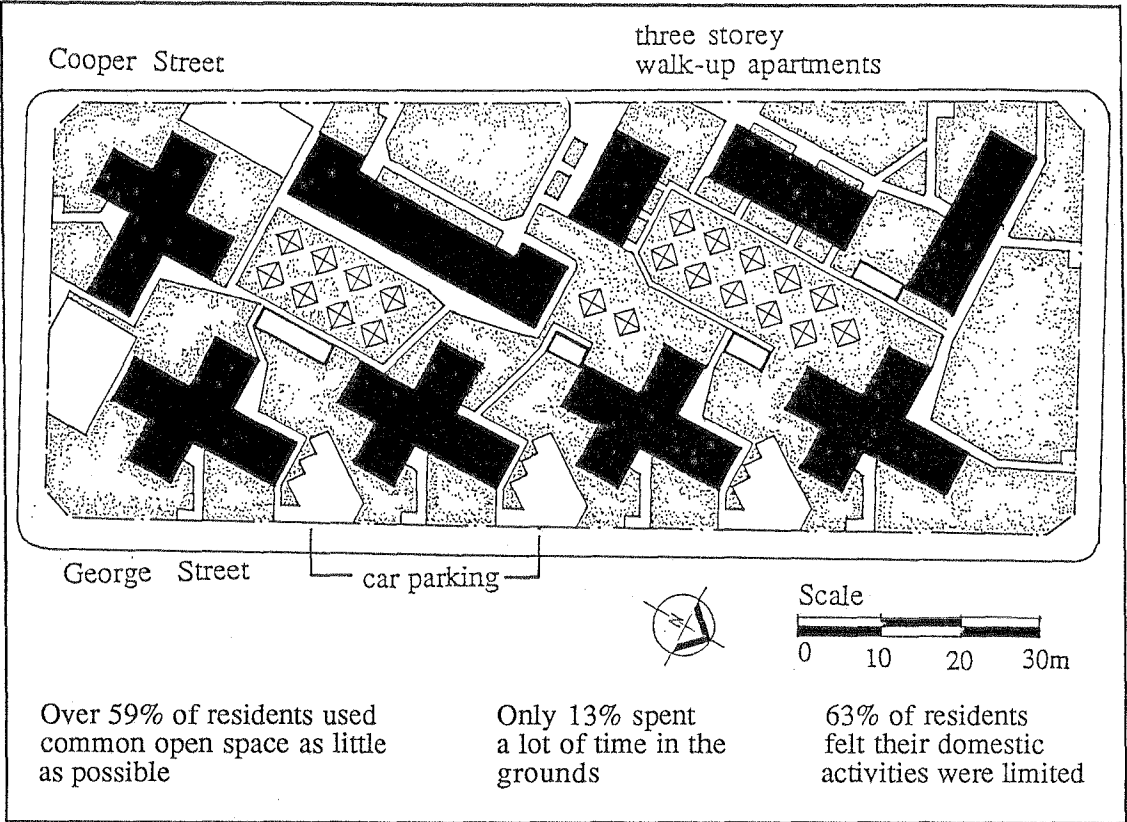


Figure 42. Typical example of walk-up flats in Waterloo
(Based on plan from Ghioni, Waterloo, p. 72.)

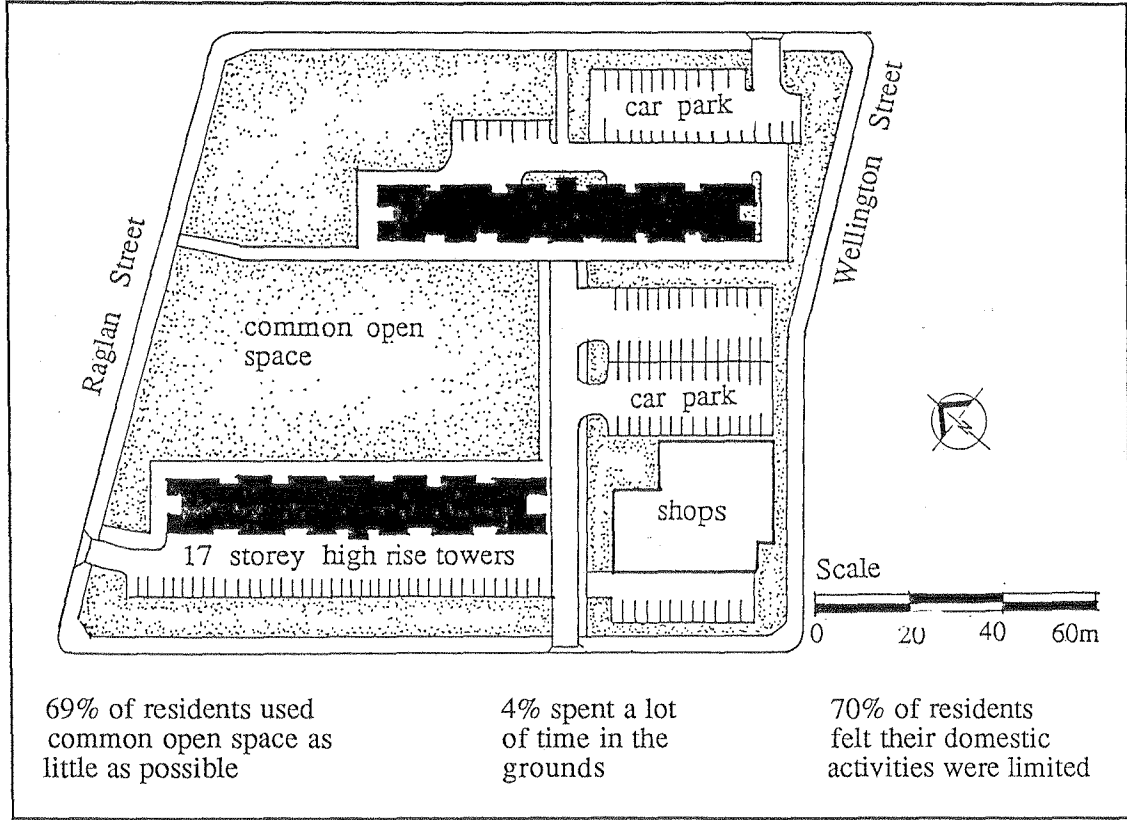


Figure 43. Typical example of high rise in Waterloo
(Based on plan from Ghioni, Waterloo, p. 77.)

Both studies indicate an extremely low usage of common open space by residents in tall tower blocks and walk-up flats. Further, due to the lack of useable open space, residents felt that their range of domestic activities such as gardening, pets and relaxing outdoors were severely limited. The Melbourne study also found that the arrangement of high rise accommodation with common corridors, entrances and common open space was not a stimulus for social interaction. On the contrary, it concluded that these factors contributed to the social isolation evident in the housing.

Low Rise Urban

The Villawood housing development has been evaluated by both the N.S.W. Department of Housing and Fairfield Council. This development which was described in detail in Chapter III, comprises of 253 two, three and four bedroom housing units, organised within a Low Rise Urban configuration. It was completed in August 1981 and was fully tenanted by mid 1982. The problems found at Villawood can be regarded as typical of other Low Rise Urban projects managed by the Department.

A social study conducted by Fairfield Community Resource Centre by Sam Vasta in 1983,¹⁶ clearly established that residents were dissatisfied with a number of aspects of the housing. This was further reinforced by community consultation conducted by Sue Richards in 1990.¹⁷ Both reports conclude that the spatial organisation of the housing, rather than the dwelling units, produced many problems for the residents. In fact Richard's study found that the internal dwelling design was actually 'a redeeming feature'¹⁸ of the housing development. Major areas of concerns are outlined below and also in Figure 44.

Lack of security was a major problem for the residents and can be partly attributed to the spatial organisation of the housing. For example, the separation of pedestrian and vehicular circulation and the use of the super block created confusing pedestrian circulation, with housing facing pedestrian access ways rather than streets. As one resident reported:

The funniest sight is watching Telecom trying to deliver phone books.¹⁹

Due to the lack of the surveillance from adjoining neighbours and the twisted nature of the walk ways, many residents found access ways unsafe. The large areas of common open space located away from any street frontage also contributed to security fears. Residents felt particularly vulnerable walking next to these spaces at night in order to reach their front doors. Together these design features contributed to a dangerous (whether real or perceived) residential environment and were the source of considerable stress and anxiety for residents.

¹⁶ Sam Vasta, There is nothing stately about living on this Estate : a social survey on resident's needs in Villawood Housing Commission Estate, for Fairfield Community Resource Centre, (unpub.), 1983.

¹⁷ Sue Richards, A report of community consultation of the Villawood Housing Estate, for the N.S.W. Department of Housing, (unpub.), May-August, 1990.

¹⁸ *ibid.*, p. 25.

¹⁹ *ibid.*, p. 15.

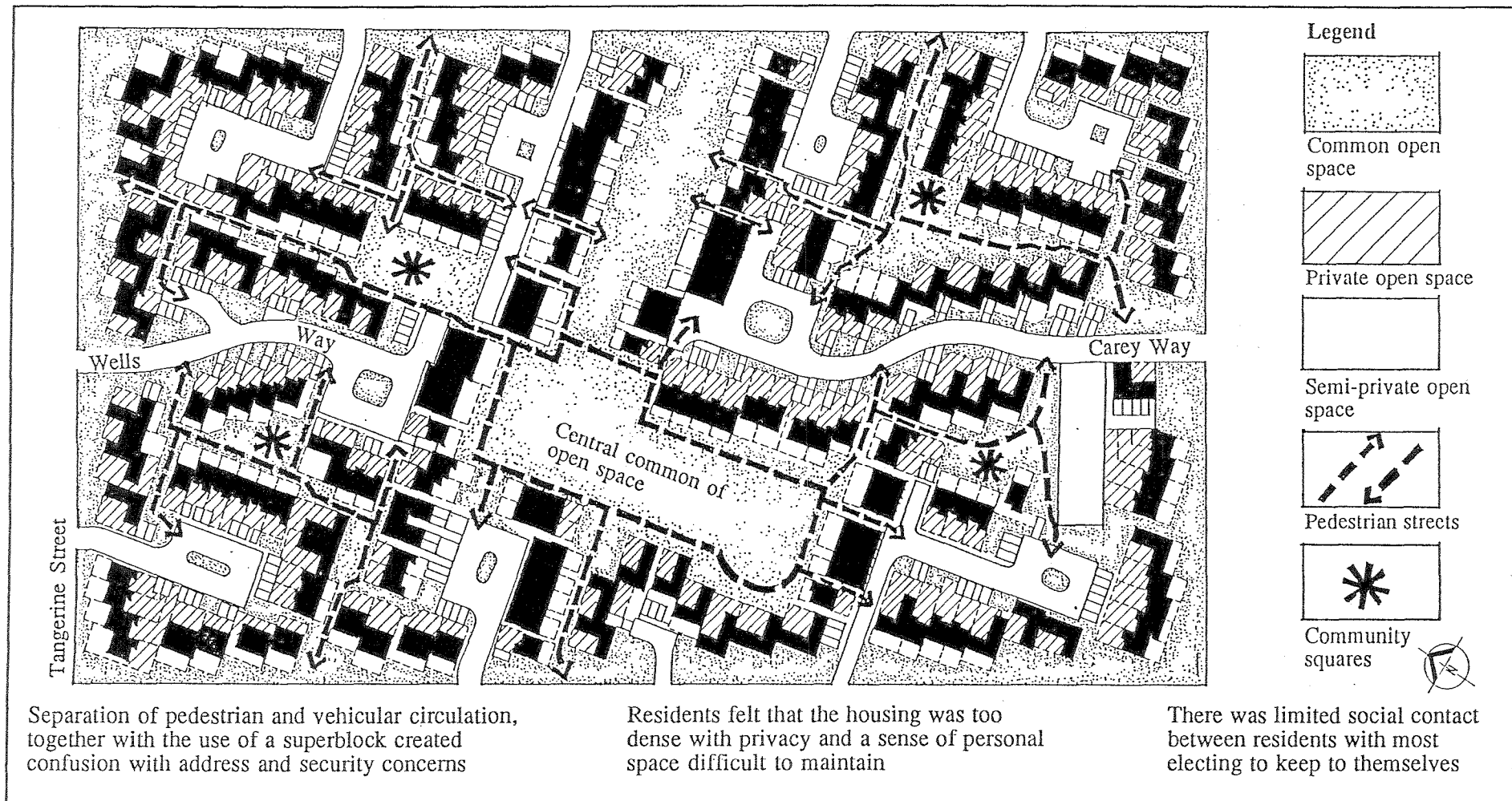


Figure 44. Problems associated with Villawood, a Low Rise Urban spatial organisation
(Based on plan from Housing Commission of N.S.W, Redevelopment at Villawood, p. 15.)

Maintaining privacy within the housing was cited as a significant source of conflict. Residents generally felt that the housing was over crowded. Vasta concluded that the relationship between neighbouring units created serious problems. For example:

- a) it seemed 'too easy' for people to make too much noise and disturb their neighbours; and
- b) it proved very difficult to maintain any sense of privacy and personal space.

Limited social contact and interaction in the housing development, was primarily a result of the residents need for privacy and personal space. Vasta's study found that people really tried to keep to themselves.²⁰ Richard's concluded that the introspective nature of the housing, together with the use of a large super block created an enclave.

Although the housing was designed with large areas of common open space, residents viewed the development as too dense. The use of the super block actually served to stigmatise the housing as a 'Commission' estate, rather than to create a 'sense of community', which was the designer's original intent. Maintaining privacy and security were major concerns for residents who felt that they were forced to live too close to each other.

The Private Sector

Evaluations concerning specific private sector housing developments are rare. The private sector tend to evaluate successful housing more on marketability than liveability, with the two not necessarily being related. Within the public sector, it is important to conduct post-occupancy evaluations in order to effectively manage housing. People cannot simply move or sell if there are problems. Although not related to specific housing projects, the following two studies evaluate the effectiveness of attached housing in various Neo-Radburn and Low Rise Urban spatial organisations.

In 1977, MSJ Keys Young Consultants interviewed over 798 Sydney residents about their experiences in medium density housing.²¹ The study has many limitations but nevertheless did reveal some interesting facts about Neo-Radburn housing, particularly regarding management of communal facilities.

Shared facilities such as common open space, laundries and car parking must be maintained. Within the public sector, this role is assumed by the housing authority. However, in private sector developments it becomes the shared responsibility of all residents. This shared ownership results in an ownership title such as a Strata title, where residents elect and finance a management body called a body corporate.

²⁰ Vasta, op. cit., p. 5.

²¹ MSJ Keys Young Planners, Medium Density Housing : survey of users report prepared for the Cities Commission by Alan Davies and Susan Young, (unpub.), Sydney, 1976.

37% of residents within these developments felt the ownership title limited their domestic life. For example, they often could not keep pets and had problems with communal washing facilities and car parking. A further 56% stated that they were restricted in modifying or altering their houses, which was viewed as a major problem. The report also concluded that town house residents were more likely to use their private open space in preference to communal space for all activities except parking and swimming. In fact 18% of all residents did not use their common open space at all.

In 1981, Foddy and Norbury undertook a study of private sector cluster housing in Australia and North America.²² Their Australian study focused on Melbourne, examining housing developments over 20 dwelling units which contained town houses or detached dwellings and shared facilities such as common open space; that is variations of Neo-Radburn and Low Rise Urban spatial organisations. Their results expressed many of the same concerns found within public sector housing. For example:

- a) there was little evidence of social interaction between residents;
- b) apart from swimming pools, communal facilities were generally under utilised, with children often discouraged from playing on common areas;
- c) noise, pets, parking, privacy and children were major sources of conflict;
- d) private open space was considered seriously lacking and people did not use common open space due to its lack of privacy;

I feel that you should not walk on land in front of units. Don't like people walking there on mine, and I don't do it to others. Just feel it is not right.

The land in front is ours, it is on our title, but you don't feel like using it, it is not private enough.²³

- e) delineation of territory was an important issue, particularly where fencing was not provided;

Absolutely necessary back and front, especially if there are children on the estate.

If you didn't have fences there would be no privacy at all.

What a stupid idea - no fences!!²⁴

- f) and there were many problems associated with the body corporate including general conflict, loss of privacy and the inability to enforce rules.

²² William H. Foddy & Marion Norbury, *Cluster Housing in Australia and North America : A Sociological Evaluation*, (Melbourne : Australian Housing Research Council, 1982)

²³ *ibid.*, p. 66.

²⁴ *ibid.*, pp. 66-7.

Although these studies cover a range of housing types and users, the sources of conflict are quite consistent. Many of the problems are a result of the spatial organisation of the housing, rather than the size or quality of the actual dwelling. The studies indicate that the internal design of the dwellings was usually one of the redeeming features of the housing.

The use of Modernist spatial concepts within the private sector also created an additional concern - the power of the body corporate. Although residents own their houses, the body corporate has the power to restrict them from modifying and personalising their homes and can also enforce behavioural limitations.

In fact the 1995 changes to the N.S.W. Strata title laws allow:

...bodies corporate the power to evict tenants, to issue on-the-spot fines and to create their own by-laws, which could prescribe exact behaviour expected by residents and guests in common areas.²⁶

Ironically, one of the major reasons for a body corporate is to maintain communal facilities which according to many evaluations receive little use and are often a source of conflict.

STUDIES OF TRADITIONAL DOMESTIC SPACE

There have been few Australian studies which have focused on the role of specific domestic spaces such as the front yard and back yard. Usually these spaces are discussed in relationship to other issues such as privacy and security. The lack of such studies regarding the importance of spatial organisation in housing forms a major reason for conducting this research. The following two studies, although not recent, have focused specifically on the role of these spaces.

The Front Yard

In 1977 Jan Gehl examined activity patterns in the front yards of Melbourne terrace housing.²⁷ Although not extensive, the study did note some important observations about the role of the semi-private front yard.

The study focused on terrace housing which all had front yards, between 5 to 30 square metres in size. A 'leanable' fence defined the front yards from the public street. Often the terrace house included a small verandah adjacent to the garden. Gehl observed that the front yard performed an important role in the social activity of the street and concluded that conversations between neighbours were often a result of the semi-private front yard.²⁸ In addition, both adults and children used the front yard as an observation platform to the street.

²⁶ Deirdre Macken, 'Control Thy Neighbour', *The Sydney Morning Herald*, 26 August, 1995, p. 5A.

²⁷ Jan Gehl, *The interface between public and private territories in residential areas*, study by students of Architecture, University of Melbourne, (unpub.), 1977.

²⁸ Jan Gehl, *Life Between Buildings : Using Public Space*, trans. Jo Koch, (New York : Van Nostrand Reinhold, 1987), p. 191.

Other observations found that the front yard provided residents with:

- a) an area which could be used for self-expression and personalisation;
- b) a privacy control for keeping strangers away from the house;
- c) something to do - either a task that had to be done or a pretext for staying in the yard and observing the public life;
- d) ownership of the street, improving surveillance and security as residents interact with the street through their front yards;
- e) valuable recreational space; and
- f) contact with the outside world, particularly in the case of the elderly, either actively or passively.²⁹

The Back Yard

Ian Halkett commenced an Adelaide study in 1973, examining the role of gardens and back yards in the life of suburban residents.³⁰ Through the course of his research, Halkett conducted more than 400 interviews and examined over 1,000 gardens and concluded that back yards were seldom wasted spaces. On the contrary, he found that:

- a) back yards provided at least 15 hours of social or recreational activity a week (outside of maintenance time);
- b) the majority of children and adults spent half or more of their recreational time in their back yards;
- c) 99% of house holds used their yards for at least one ancillary activity (usually drying washing), with the majority using it for a number;
- d) 90% of people enjoyed gardening, with only 10% regarding it as a chore; and
- e) 90% of residents grew some fruit or vegetables, with over 60% keeping pets or chickens.

From these two studies of domestic spaces, it is clear that external spaces such as the front yard and back yard provide very important functions in the domestic lives of residents. The private back yard, for example, is used extensively for recreational activities and more practical uses such as drying clothes, keeping pets and growing vegetables. In contrast, the front yard forms a very different type of space. This semi-private space creates an important interface and transitional space between life within the private house and the public domain of the street.

²⁹ Jan Gehl, *The interface*, op. cit., p. 24.

³⁰ Ian. P. B. Halkett, *The Quarter-Acre Block : The Use of Suburban Gardens*, (Canberra : Australian Institute of Urban Studies, publication no. 59, 1976), Summary.

SOCIAL RESEARCH AND THE MEANING OF HOME

Over the past 50 years immigration has significantly altered the face of Australia. It is important that research reflect this diversification in order to understand the importance of home from a range of perspectives. It is also necessary to establish the views of Australia's indigenous population as they too represent a significant population within our urban centres.

The Immigrant

Susan Thompson in her study of 40 migrant and first generation Australian women examined the importance of home among Greek, Arabic and Vietnamese women.³¹ Her study found that a private home, complete with a garden, was important for a number of reasons; namely:

- a) home was a place where differences could be displayed and acted out and where the first language could be spoken without being overheard;
- b) home could be modified to bring a lost home closer. For example, a Vietnamese woman found that her home and particularly her garden were important in reminding her of her previous life;

...so we set up everything looks like back home and also we need plants that remind us back home, remind us, a souvenir of everything back home...And also if you go out you look at your garden and you look at some tree and it's like palm tree and some plant that remind you of your home...³²

- c) privacy was essential within the home as it enabled people to express their differences without drawing attention to themselves; and
- d) the physical home was a symbolic achievement within a new society, offering security and ownership.

In 1992, Helen Armstrong studied attitudes among a group of Greek immigrants who came to the inner Sydney suburb of Marrickville in the 1950s.³³ Initially, they altered the exteriors of their houses (terrace housing) by painting the walls white and the guttering blue. Internally they modernised their houses by opening up the interiors and putting in aluminium windows. One person explained that:

...when I came to Marrickville in the 1950s, I was used to white houses, straight lines, not fussy (I thought) why all of these decorations? (referring to Victorian terraces) They seemed so anachronistic. ³⁴

³¹ Susan Thompson, 'Suburbs of opportunity : the power of home for migrant women', in *Metropolis Now : Planning and the Urban in Contemporary Australia*, eds. Katherine Gibson & Sophie Watson, (Sydney : Pluto Press, 1994)

³² *ibid.*, p. 38.

³³ Helen Armstrong, 'Cultural continuity in multi-cultural sub/urban places', in *Metropolis Now : Planning and the Urban in Contemporary Australia*, eds. Katherine Gibson & Sophie Watson, (Sydney : Pluto Press, 1994)

³⁴ Greg 14/10/92 cited Helen Armstrong, Draft report on Greek cultural heritage in Marrickville, Unpublished report, 1993, cited Armstrong, *ibid.*, p. 108.

Later as Mediterranean immigrants moved into these houses they added arches, balustrades and colonnades. The study group admitted that changing the appearance of the houses was no longer so important. They felt that altering the house to reflect one's previous country was a phase in establishing a life in a new country. As one resident said:

I didn't understand the houses when I first came; but over the years I got used to it or came to appreciate it and sometimes I think this is the personality of Australia.³⁵

The importance of home is further reinforced by a 1985 study of the housing preference of Polish, Turkish and Indo-Chinese people in Melbourne. It found that the detached house with garden was the preferred choice of 96, 99 and 94% of people respectively.³⁶

The Indigenous View

Australia's indigenous culture is extremely diverse with the population living in a range of urban and rural environments. It is important to include indigenous people in discussions on urban housing as they too live within urban centres. Establishing their perspective on home and the role of domestic space is a difficult task. The N.S.W. Department of Housing 1992-3 Aboriginal Housing program, however, does provide some insights into an Aboriginal perception of home in the 1990s.

This program involved the construction of detached dwellings on Aboriginal land. It included extensive community consultation and covered remote areas of western N.S.W as well as more urban centres. Residents were offered basic detached and semi-detached floor plans which could be embellished and modified to suit their individual needs. Part of this process involved discussions about concepts of privacy and the definition of external spaces - particularly the role of front yards and back yards.³⁷

Interestingly, even when people knew or were even related to their neighbours, the majority requested front and rear fences to distinguish their property and to protect their privacy. People were well aware of the advantages of establishing their territory, particularly in avoiding disputes concerning children and pets. Most residents also had a very domestic view of the front and back yards. This was further reinforced on return visits, where residents had developed extensive gardens in their front yards, sometimes complete with Aboriginal gnomes.

³⁵ Greg 21/10/92 cited Armstrong, Draft report, 1993, cited Armstrong, *ibid.*, p. 109.

³⁶ Social Planning Consortium, 'Housing for all people : A report on housing preferences of Polish, Turkish and Indo-Chinese People in Melbourne', Report to the Australian Research Council, 1985, Section 4.22, cited Sophie Watson & Alec McGillivray, 'Stirring up the city : housing and planning in a multi-cultural society', in *Metropolis Now : Planning and the Urban in Contemporary Australia*, eds. Katherine Gibson & Sophie Watson, (Sydney : Pluto Press, 1994) p. 209.

³⁷ Jillian Walliss, 'Aboriginal Housing', *Landscape Australia*, no. 1, 1995, p. 67.

The Overview

Nearly 80% of all Australians live in detached housing complete with front and back yards.³⁸ Home is overwhelmingly an individual house with a private garden. In his book *Ideas for Australian Cities*,³⁹ Stretton outlines reasons for the continuing popularity of this housing form and associated external spaces. He believes it allows:

- a) the opportunity for **self-expression**, explaining that although many houses may appear similar, the fact that they are is a definite choice;

...the similarity is often and above all a sign of *freedom* : more and more people are at last getting what all of them have always, freely, independently, identically wanted.⁴⁰

The following cartoon succinctly illustrates Stretton's point.



Figure 45. The opportunity for self expression

(Source: Paterson, Yencken & Gunn, *A Mansion or No Home*, p. 122.)

- b) the owner the chance to modify the degree of **privacy**;

Each owner has considerable freedom to choose his own degree of privacy, publicity or neighbourliness. This freedom to alter his house without changing his address is an underrated one.⁴¹

- c) the fond **familiarity** of the detached house; and

- d) the **aspiration** of owning one's own home which represents an **important life asset**.

³⁸ ABS 1988-89 Household Expenditure Survey cited Ross Clare, 'Housing in Australia-some stereotypes examined', *Urban Futures*, vol. 1, no. 4, November 1991, p. 8.

³⁹ Hugh Stretton, *Ideas For Australian Cities*, 3rd edn, (Sydney : N.S.W. Transit, 1989)

⁴⁰ *ibid.*, p. 11.

⁴¹ *ibid.*, p. 15.

These values correlate with the views expressed by new immigrants to Australia. Although most would be familiar with denser housing, on arrival in Australia they readily adopt the 'Great Australian Dream'. Similarly, the Aboriginal population within our urban centres also value the flexibility and familiarity of the detached house with garden.

BEHAVIOURAL CONVENTIONS

There has been much debate about the influence that the built environment has on human behaviour. Historically, models have favoured either genetic factors (where behaviour is independent from the built environment) or cultural factors (where behaviour is influenced by the organisation and form of the built environment). It now seems that the interactive model, or the sociological-ecological model, has gained the widest acceptance.⁴²

This model proposes that human behaviour influences the organisation of the built environment just as the built environment influences behaviour. This interchange is dynamic, with each capable of modifying the other. This theory is supported by a range of notable researchers including Altman, Rapoport, Lavin and Maxwell.⁴³

The interactive model acknowledges both the role of the built environment in determining behaviour as well as innate behaviours or cultural conventions. Amos Rapoport describes the role of buildings and settings within this model as:

...ways of ordering behaviour by placing it into discrete and distinguishable places and settings, each with known and expected rules, behaviours and the like...Built environments thus communicate meanings to help serve social and cultural purposes; they provide frameworks, or systems of settings for human action and appropriate behaviour.⁴⁴

In short, the built fabric can reinforce or inhibit human behavioural responses. Behavioural scientists have conducted many studies examining the mutual interaction between behaviour and domestic environments, and conclude that the concepts of territoriality, privacy regulation, boundary controls and transitional spaces are critical considerations in the design of successful housing.⁴⁵

Territoriality

Following a long history beginning in the seventeenth century, the concept of territoriality as a reason for some observed behaviour has generally been accepted by environmental psychologists. However, there is some disagreement due to the use of behavioural patterns borrowed from studies

⁴² Donald Sanders, 'Behavioral conventions and archaeology : methods for the analysis of ancient architecture', in *Domestic Architecture and the Use of Space : An Interdisciplinary Cross-cultural Study*, ed. Susan Kent, (Great Britain : Cambridge University Press, 1990), p. 44.

⁴³ *ibid.*

⁴⁴ Amos Rapoport, 'Vernacular architecture and the cultural determinants of form', in *Buildings and Society*, ed. A. D. King, (London : Routledge and Kegan Paul, 1980), p. 300, as quoted by Sanders, *ibid.*, p. 46.

⁴⁵ Sanders, *ibid.*, p. 47.

conducted on animals.⁴⁶ Regardless of these doubts, territoriality forms a major component of behaviour-environment studies.

Territorial behaviour relies on accepted codes which vary among different cultures. Once codes are accepted, their role in establishing territoriality provides a major stabilising force in society and helps to provide cues for acceptable behaviour. There are many different types of territories, with primary territories being the most relevant to housing.

The home is regarded as a primary territory as it is generally permanent and the core of every day life. Within the home, the occupant uses privacy and controlled access to regulate territory. Territorial markers are very important in the regulation of expected behaviour. Altman explains that the degree of territorial marking relates to the type of territory, for example:

- a) where territory is permanent, the occupant will establish more elaborate markers, for example, fencing around external spaces such as the front and back yard;
- b) the more public the territory, the more necessary it is for markers; and
- c) the more private the territory, the more cultural conventions are used as regulators.⁴⁷

Privacy

Privacy can be universally defined as the control of unwanted interpersonal interaction and communication.⁴⁸ Aspects of privacy, however, differ from culture to culture. Westin in his study, *Privacy and Freedom* identified four aspects of privacy from both anthropological and ethnological data:

- a) privacy provides norms of behaviour for individuals and groups. In housing, privacy is regulated through the control of access into the home territory - both visually and spatially;
- b) privacy creates a choice between isolation and interaction;
- c) individuals and groups tend to invade the privacy of others - a factor of curiosity, so as a response cultures establish means for surveillance; and
- d) as a society moves from 'primitive' to 'modern', the physical and psychological opportunities for privacy increase.⁴⁹

Privacy allows the individual to create a sense of individuality and self identity. The level of privacy which people want is related to the amount of

⁴⁶ Sanders, *ibid.*, p. 50.

⁴⁷ Irwin Altman, *The Environment and Social Behaviour : Privacy, Personal Space, Territory , Crowding*, (Monterey, CA : Brooks/Cole, 1975), pp. 123-145, cited Sanders, *ibid.*, p. 49.

⁴⁸ Sanders, *ibid.*, p. 50.

⁴⁹ Alan Westin, *Privacy and Freedom*, rev. edn. (New York : Atheneum, 1970), pp. 11-22, cited Sanders, *ibid.*, p. 50.

interpersonal contact which people desire. Denial of privacy can lead to stress and conflict between people.

Boundaries and Transitional Spaces

Space is defined and regulated around buildings through a series of boundaries and transitional spaces. In the case of housing, boundaries have a number of important uses and meanings. They can serve as:

- a) physical barriers, which can regulate visibility and accessibility;
- b) symbolic markers, defining the edges of different types of spaces;
- c) judicial borders, defining the legal ownership of space; and
- d) administrative edges, marking the control and management of spaces.⁵⁰

These boundaries are essential in establishing territory and privacy. Further, they establish a framework of expected behaviour based on cultural conventions and the aspirations and needs of the residents.

Boundaries can be represented in a number of ways. For instance they can physically restrict movement or they can be simply symbolic markers. The degree that the boundary is defined is related to the degree of privacy and interaction that residents require. Often it is the quality of the markers of boundaries which is a source of stress or conflict.⁵¹

Connected to the idea of boundaries is the concept of transitional spaces. Lawrence defines these spaces as an ambiguous zone which is neither wholly public nor private that contain activity patterns that regulate interpersonal contact according to aspirations and goals of the resident.⁵² An example of this space is the semi-private front yard which forms a transitional space between the public street and the private house.

The built environment cannot determine human behavioural patterns. Instead, it provides a framework and setting for appropriate human activity and behaviour. Territory, privacy regulation, boundary markers and transitional spaces are all important conventions which need to be represented in external spaces as part of a residential framework. Lack of these conventions can inhibit human behavioural responses and contribute to stress, conflict and anxiety among residents.

⁵⁰ Roderick J. Lawrence, 'Public collective and private space : a study of urban housing in Switzerland', in *Domestic Architecture and the Use of Space : An Interdisciplinary Cross-cultural Study*, ed. Susan Kent, (Great Britain : Cambridge University Press, 1990), p. 77.

⁵¹ *ibid.*

⁵² Lawrence, *Dwellings and Homes*, op. cit., p. 172.

FAILINGS OF MODERNIST SPATIAL THEORY

This chapter has examined many studies regarding the importance of spatial organisation in housing. Although diverse, they overwhelmingly lend support to each other. Together they can be used to:

- a) explain the failings of Modernist spatial theory in Australian housing; and
- b) create a clearer understanding of the role of spatial organisation in establishing home in Australia.

Modernist spatial concepts have created unsatisfactory residential environments. This is a consequence of Modernism:

- a) through its strategy of defamiliarisation, abandoning behavioural conventions which are important in the organisation of domestic space. Concepts such as territory, privacy, transitional space and boundary demarcation were all ignored in an attempt to create new spaces and new relationships between people; and
- b) failing to recognise important connotative aspects of home such as self-expression and personal achievement, instead electing to create a residential environment based on a mass equality.

In Australia, the application of Modernist housing principles did not usually involve the radical alteration of the dwelling. The dwelling remained essentially the private domain, with the same base functions. Instead, it was the space around the dwellings and the organisation of the dwellings which were significantly modified. For example, as a dwelling the town house is not radically different from the terrace house. The Neo-Radburn spatial organisation, however, which was frequently used with town houses is very different from the traditional spatial organisation associated with the terrace house.

Post-occupancy evaluations demonstrate that the majority of residents who live in Modernist housing developments do not experience major problems with the basic dwelling unit. Instead, the source of much discontentment stems from:

- a) the organisation of the housing and the resultant spaces and relationships with other residents; and
- 2) the mass nature of the housing.

The consequences of specific features of Modernist spatial theory are summarised in the following table.

MODERNIST SPATIAL THEORY	RESULT
The use of the super block in order to minimise the impact of the car and to maximise design opportunities	Housing became identifiable as an enclave, out of context with the surrounding urban fabric Housing located away from the edges of the super block suffered from poor street address and as a result became isolated
Separation of pedestrian and vehicular circulation	Created 'back to front' problems with Neo-Radburn and Low Rise Urban housing Produced difficulties in locating the front door of housing Neither vehicular access ways or pedestrian circulation were safe, particularly at night, due to the lack of surveillance
Emphasis on the orientation of the housing for solar access	Housing was out of context with adjoining streets and urban fabric Created awkward, external spaces Often the back of housing faced the street
Reduction of the traditional public domain - the street, to a functional role in order to create new spaces for public and private life, eg. common open space	People did not use the common open space because of no sense of ownership Body corporates were necessary in private sector developments to maintain these areas - which resulted in additional costs and restrictions for residents Created a security concern
Rationalisation of the needs of the individual in an attempt to establish an equality or 'sense of community' across the broader mass. The representation of housing as a total entity rather than a collection of individual homes.	Created a separate enclave People were restricted in achieving privacy and modifying their homes The individual home was lost in the institutional mass People were forced to interact therefore they retired to the privacy of their own home No evidence of increased communal reaction - often the reverse occurred - social isolation
Creation of new collective relationships between residents at the expense of individual needs, eg. the provision of common open space at the expense of private open space.	No evidence of increased social interaction People retired to the privacy of their own home Presence of communal facilities necessitated a body corporate which placed restrictions on residents

Table 1. Failings of Modernist spatial theory

If we again examine Habraken's view that:

Living is an act which takes place in two realms, the public and the private...Living exclusively in the public realm is tantamount to institutionalisation. Living exclusively in the private realm is a kind of exile.

we can conclude that Modernist spatial organisations produce both of these conditions - simultaneously.

The emphasis on communal spaces and facilities over individual ones result in unused external spaces in housing. Although these spaces are essentially for residential use, they remain institutional because people feel uncomfortable using the space and the housing has little connection with them. Consequently people do not domesticate the space as they feel no sense of ownership. The loss of the individual house and the inability to personalise homes amongst the total mass of the housing also contributes to the institutionalisation of the housing.

At the same time, the lack of transitional spaces between the public domain and the private house creates a feeling of exile. People feel uncomfortable with the threshold between the private house and the public domain. They need a space around their house, particularly the front door, which can be controlled and personalised. As a result they have no alternative but to remain private in preference to being public.

The Role Of Spatial Organisation

It is clear that Australians have developed specific qualities for home. Spatial organisation contributes significantly to the success of housing and is particularly important as density increases. It is basic to the establishment of the following important qualities and aspects associated with housing.

Social organisation and Behavioural Patterns

The delineation and organisation of space around housing creates a logical framework for human behaviour. It helps to establish:

- a) the front and back of the house through the definition of formal and informal spaces;
- b) private areas around the house where for instance strangers can be kept out and also children and pets kept in;
- c) clear cues for the public regarding their relationship to the house, such as how close they can come and where they should enter, and
- d) transitional space between the public and private domain which again provides cues for appropriate behaviour.

Legal and Psychological Ownership

The arrangement and definition of external spaces can indicate both the legal ownership of housing and psychological ownership of space. The types of spaces, their definition and their relationship to individual dwellings also

determine whether residents develop a 'sense' of ownership over space; that is, whether they use or maintain open space. Communal facilities such as open space can necessitate the formation of bodies corporate, meaning that housing cannot be owned under individual title.

Perceived Density

The provision of common open space at the expense of private open space can create the perception that housing is denser than it is in reality. Often dwellings seem closer together because open space is not designed with boundaries which regulate territory and privacy.

Outdoor activities and utilities

Private open space provides a major recreational facility for both children and residents. Activities include sunbaking, gardening, playing, eating and reading. It is also used for a range of functions such as clothes drying, parking and washing the car, growing vegetables, storing garbage and keeping pets. The semi-private front yard is synonymous with the letter box and small garden. Most people do not regard the maintenance of these areas as work but instead part of their recreational activity.

Privacy and Territory

Space around housing can be defined by fencing and other means to extend the domain of the private house. This show of territory (whether legal or not) creates clear signals for the public indicating how to approach the house. It allows residents to modify their privacy to suit their needs (through fencing heights, transparencies, plants) and enables them to protect their ground floor windows, front and back doors and open space from the public. Territorial boundaries allow people to decide their relationship with adjacent neighbours and the public domain.

Personalisation and Appearance

The spaces around the house allow people to modify their homes to suit their own personal taste. This is particularly the case with the front yard. This area forms the public face of the house and can be used to distinguish individual housing from the mass. This may be done through front fencing, the mail box, gardens, ornaments and the decoration of verandahs, windows and the house. In contrast, the private yard allows people the freedom to use this space any way they choose. Unlike the front yard there is no need to create any particular appearance. These spaces allow people to influence the appearance of the housing. Instead of relying on large areas of common open space to provide a unified setting for the buildings, each resident can express their own style. This produces housing which is representative of the occupants rather than institutional in character. It also contributes significantly to the character of the street - the public domain.

Security

Designing to ensure that residents use spaces around housing is the best way of ensuring a safe residential environment. For example, the presence of the semi-private front yard creates a level of surveillance for the street - hence making it safer in the public domain for pedestrians. A clear hierarchy of space which can be identified with particular houses means that residents are far more aware of intruders. Boundary definition also makes it more difficult for intruders to come close to access points into housing such as windows

and doors. Parking cars close to individual housing such as in the back yard also allows residents surveillance over their cars.

Maintenance

Residents tend to maintain open space only if it is clearly identified as their territory. Often this requires the physical enclosure of this space. The use of boundaries around dwellings also helps to protect exterior walls from vandalism. If common facilities such as common open space, drying areas, car parking and garbage areas are included in housing, the residents cannot be individually responsible for maintenance. Instead, a management structure such as a body corporate must be established and financed.

* * *

Spatial organisation is essential in the design of urban housing. Although dwellings are often repetitive in architectural form, appropriate spatial organisation allows residents the choice and flexibility to decide how they:

- a) present themselves to the broader community; and
- b) interact with the broader community.

Serge Chermayeff reinforces the importance of this choice when he wrote:

There is a sort of law which seems to operate in the phenomena of life of all kinds, not excluding mankind, in which maximisation of individual choice of environments, events, or interactions is achieved by extending the spectrum of alternatives between tolerable limits of complementary opposites, as for instance, between community and privacy.⁵³

Traditional spatial organisation permits this individual choice, even in denser housing forms, whereas Modernism denies it. For example the traditional terrace house and associated spaces provide far more opportunity for flexible, individual living than town housing organised in Neo-Radburn. High rise housing offers residents the most limited housing experience because it does not allow people to distinguish themselves from the housing mass. Experimentation with Modernist spatial concepts in Australia has demonstrated that failure to recognise the importance of space can result in unsatisfactory housing. More importantly, these concepts contribute significantly to people regarding their houses as purely dwellings rather than homes.

53

Serge Chermayeff, *Design and The Public Good : Selected writings 1930-1980* by Serge Chermayeff, ed. Richard Plunz, (Cambridge, Mass : MIT Press, 1982), p. 76-77.

CHAPTER V

SPATIAL DESIGN PRINCIPLES FOR AUSTRALIAN HOUSING

Establishing an appropriate direction for spatial organisation in contemporary urban housing is not as difficult as one might expect. As outlined in Chapter II, Modernism encouraged designers to disregard behavioural and cultural conventions. This approach often produced unsatisfactory housing developments, largely as a result of Modernist spatial concepts. Therefore establishing a more appropriate direction requires the realignment of design principles to once again reflect cultural and behavioural conventions. As demonstrated in Chapter IV, disciplines such as sociology and behavioural studies provide clear explanation for the failings of Modernist spatial concepts. This same evidence can also contribute significantly to the formation of design principles which will promote successful spatial design in contemporary Australian urban housing.

This chapter intentionally avoids the development of extensive design guidelines. Over the past five years a number of guide documents, such as the Australian Model Code For Residential Development (AMCORD), have been developed in order to promote good housing design. These documents are extremely thorough, covering issues ranging from broad site planning through to more detailed design considerations. However, it is felt that these documents do not adequately address the issue of spatial organisation.

As discussed previously, many aspects relating to spatial organisation in housing are qualitative in nature and incorporate many cultural and psychological considerations. These qualities suffer in both prescriptive and performance based guidelines as they are difficult to describe or measure. As a result, they are often under valued or ignored.

Another difficulty associated with design guidelines is that often the number of considerations covered are extensive, yet equally weighted. Barry Goodchild notes, for example, that the 1986 publication, *Housing as if People Mattered*¹ identified over 250 separate criteria for consideration in the design of low rise high density housing.² The very nature of denser housing means that space is limited and therefore compromises are inevitable in achieving certain residential qualities. Documents such as *Housing As If People Mattered*, while extremely thorough, offer little assistance in determining which criteria can be compromised and which few are essential.

1 Clare Cooper Marcus & Wendy Sarkissian, *Housing as if People Mattered : Site Design Guidelines for Medium Density Family Housing*, (Berkeley : University of California Press, 1986)

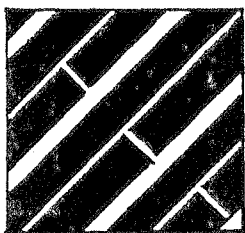
2 Barry Goodchild, 'Housing design, urban form and sustainable development', in *Town Planning Review*, vol. 65, no. 2, 1994, p. 150.

This chapter therefore includes a compact set of design principles which succinctly summarise the findings from this research into a form which is relevant to the design of urban housing. These principles, however, do not call for a slavish return to traditional spatial concepts. Although this research has thoroughly highlighted the merits and qualities afforded by traditional spatial concepts, it also recognises the importance of developing housing which responds to contemporary needs and conditions. As a result, the principles developed in this chapter provide a strong design direction which can be modified and adapted according to individual site conditions, housing types and resident needs. As will be demonstrated through the use of specific examples, the application of these principles still allows for significant design innovation, but from within well defined cultural and behavioural boundaries.

These principles have been carefully developed to reflect the scale of decisions encountered during the design process - beginning with broad scale subdivision issues and continuing through to more detailed design considerations. Each principle contains a rationale which has been developed from conclusions drawn in previous chapters. This rationale is then discussed in terms of its implication on design direction. Finally, each principle contains a number of examples demonstrating the successful application of these principles in contemporary Australian urban housing.

Most of the examples described in this chapter were designed by the now disbanded Urban Renewal Group, which operated as part of the N.S.W. Department of Housing in the 1980s. The housing produced by this group reflects a thorough understanding of the role and importance of spatial organisation in Australian housing; hence its use in demonstrating particular design principles.

Principle 1.



Housing should be designed as an extension of the urban fabric and not as a separate enclave

Rationale

A housing development does not represent a community. It is simply a collection of individual homes. The notion of 'community' within Australian cities is not a factor of geographical proximity.

The Modernist super block was developed as a design unit for physically and socially defining residential communities. This approach was often unsuccessful, serving to stigmatise housing as an isolated enclave.

Residents should be able to consider their home as part of the broader urban fabric and general community. It is no longer appropriate for housing developments to have an introspective focus on features such as common open space and other communal facilities. Instead designers should concentrate on designing successful housing rather than encouraging social interaction and a sense of immediate community among residents.

Communal facilities such as large areas of open space, swimming pools and play equipment are best served in the public domain. Research indicates that these facilities are usually under utilised within housing developments and are often a source of conflict.

Design Implications

Decisions regarding the scale, design and role of the public domain should be considered carefully. The development of a legible system of streets, lanes and public open spaces is integral to the development of successful spatial design in housing. The initial design decisions concerning road layout, subdivision and location of open space are critical in determining whether a housing development will become an extension of the urban fabric or an enclave. In addition, these decisions will determine qualities such as:

- a) the relationship of the housing to the public domain, such as the connection between the front of the house to the street;
- b) the impact of car parking on the housing, for example, a lane system may enable cars to be parked at the back of housing;
- c) the types of open spaces provided in housing, as the provision of quality public open space may allow housing to be designed with minimal common open space and maximum private open space;
- d) the character of the residential development; and

- e) the security of the housing and the public domain.

Streets and lanes should be designed to not only service housing but also to contribute, both aesthetically and functionally, towards the public domain. In addition to facilitating traffic, streets should be designed to accommodate pedestrians, cyclists, on street parking and street trees.

The design of a successful public domain will provide the appropriate places for public life, allowing the housing to be viewed simply as part of the broader urban fabric, rather than a physical or social enclave.

Housing should be designed with an outward perspective. This can best be achieved through the maximisation of all available street frontage. Housing should rarely be designed with its back to the street. Besides contributing to an introspective character for the development, the relationship between the front of the house and the public street forms an important functional and psychological convention.

Design Examples

Although this principle is quite straight forward, its application is very influential in determining the broad scale site planning of housing. This is well illustrated in the following example of a staged housing development in the inner Sydney suburb of Eveleigh.

The original design centred upon a series of cul-de-sacs which ran the length of the site. As illustrated in the figure below, this subdivision pattern had little in common with the existing urban fabric which consisted of streets and lanes. As a result, the housing constructed as part of Stage One had little relationship with the adjoining streets, and consequently became identifiable as an enclave.

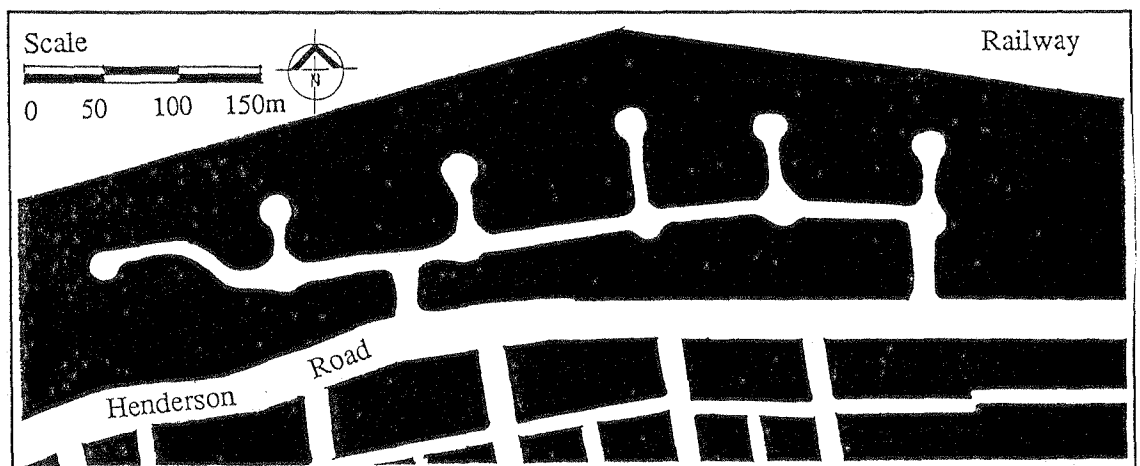


Figure 46. Original cul-de-sac subdivision, Eveleigh
(Based on plan from N.S.W. Department of Housing, Eveleigh Strategy Plan, p. 10.)

Stage Two of the development significantly modified this approach in order to integrate the housing with the surrounding urban fabric. Although constrained by the existing cul-de-sac subdivision pattern and the railway easement, the design does manage to better relate the housing, both physically and socially, to the surrounding suburb. A key factor in achieving

this integration centred upon a significant emphasis on the development of a successful public domain.

Unlike Stage One, this scheme, which is shown in Figure 47, developed a generous street and lane system which was clearly identifiable as the public domain. In addition, a public park designed through the centre of the housing, provided a strong visual and physical connection between the new street (Rowley Street) and Henderson Road.

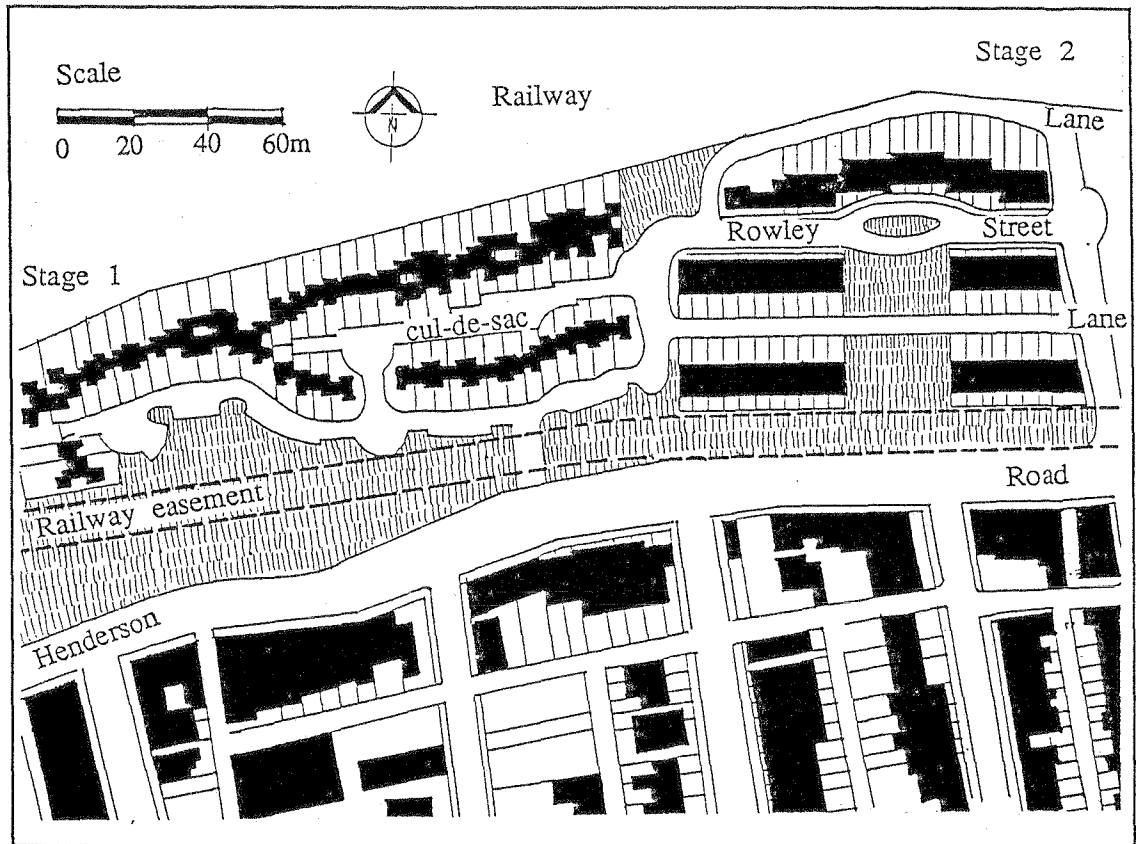


Figure 47. Subdivision plan for Stage Two, Eveleigh

(Based on plan from N.S.W. Department of Housing, Eveleigh Strategy Plan, p. 22.)

The park was designed specifically as public open space in order to extend the public domain of Henderson Road through to the new street and hence link the new housing to the surrounding urban fabric. For this to be successful, it was essential for the open space to be clearly identifiable as independent from the housing. This was achieved through the formal definition of the private domain of the housing and the public open space through fencing and masonry walls. The relationship between the housing, park, streets and lanes is explained in detail in Figure 48.

In addition, the design of a generous public street further served to connect the housing to the adjoining streets and roads. This street, which is illustrated in Figure 49, also contributed significantly to the character of the housing and also provided on street parking. Together, the new street, lanes and public park form the public domain - the places for people, leaving the housing to be designed simply as good housing.

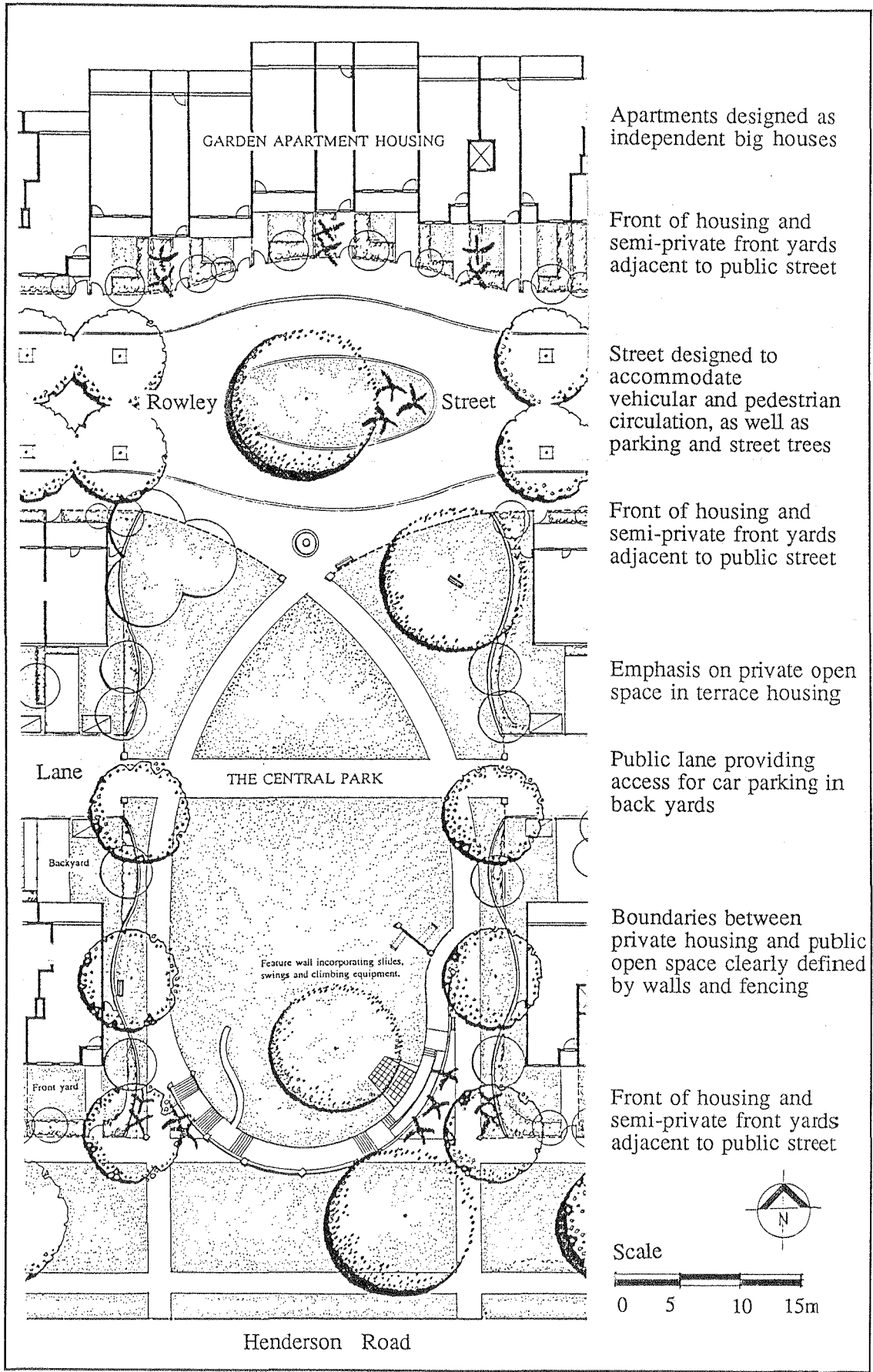


Figure 48. Relationship between public park, streets, lanes and housing, Eveleigh
(Source: N.S.W. Department of Housing)



Figure 49. **Perspective of Rowley Street, Eveleigh**
(Source: N.S.W. Department of Housing)

Semi-private front yards
defined by fencing and
placed adjacent to the
public street

Wide pedestrian footpaths

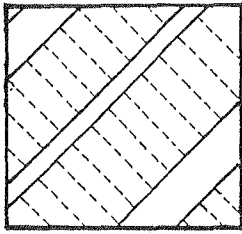
Street designed to
accommodate on street
car parking, street trees
and vehicular circulation

Public park with frontage
adjacent to the street

The front of all housing
orientated to address
street

Clear definition of the
public domain and the
private domain of the
housing

Principle 2.



Housing should be designed as a collection of individual and private homes rather than a mass entity

Rationale

Home in Australia is regarded very much as a private and individual concept.

The provision of communal facilities (particularly common open space) at the expense of individual has largely been unsuccessful and a source of conflict among residents.

The use of repetitive building forms in Modernist housing developments has often resulted in an institutional character for housing.

The concept of independent homes within a housing development has many advantages, both functionally and socially, allowing:

easier management of housing as residents can take individual responsibility for issues such as maintenance;

in some cases, outright ownership of the house and land rather than involving residential involvement in a body corporate;

residents to modify and personalise their homes to suit their needs, thus increasing residential satisfaction and creating a more domestic character for the housing; and

less opportunity for conflict and stress among residents due to the clear expression of personal territory and privacy.

Design Implications

A site should not be designed as a unified single development. Instead, it should be divided into a number of smaller independent blocks through a legal subdivision or simply by fence lines.

An apartment complex should not be designed as a total mass entity. Through careful design, it should be possible to produce an economically viable housing development (using repetitive dwelling units), yet still design for individual homes.

In order to achieve this aim, a consistency of spatial organisation must be established throughout the housing, ranging from the broad scale siting of buildings through to the location of letterboxes and clotheslines. For example:

- a) all frontages should be utilised as street address for housing as they provide the best opportunity for housing to be designed as individual and independent entities;
- b) ground floor accommodation should be designed with independent facilities such as entrances, private open space, car parking, washing areas and entrances;
- c) apartment buildings should be designed as independent 'big' houses, complete with semi-private front yards and functional back yards. In addition, ground floor apartments should have private entrances, with above ground apartments grouped in small numbers around staircases and lifts; and
- e) individual facilities and amenities such as letterboxes, garbage bins and drying lines should be provided at all opportunities.

The adoption of this design principle automatically ensures a more domestic scale for the residential development. In addition, it serves to combat some of the known pressures of higher density living. For example, the emphasis on 'individual' homes minimises the potential for stress and conflict among residents, due to the clear delineation of individual territories and facilities.

Design Examples

The following two housing schemes demonstrate the application of this principle; firstly to a large inner city site, and secondly to the design of a large apartment block.

The first scheme involved the construction of family housing and walk-up apartments on a large inner city site in Waterloo, Sydney. Rather than treat the site as a single development, the designers elected to define a number of individual blocks and develop them as separate entities. This approach is examined in Figure 50. The Kellick Street frontage, for example, retained the existing semi-detached houses and infilled with similar housing types. These houses were then defined with individual front and back yards and car spaces and separated from the original block through fencing and a distinct level change.

Similarly, the apartment buildings were designed as big houses with their own external spaces and character. Each building was detailed to be visually distinctive, with all ground floor apartments provided with access to semi-private and sometimes private open space. Entrances to apartment buildings were clearly identifiable, with ground floor apartments often incorporating private entrances.

The merit of this design approach is obvious when compared to an earlier design proposal for the same site. This scheme, which is shown in Figure 51, incorporated a Low Rise Urban approach with housing designed in three identical blocks. The individual dwellings and external spaces were designed with little physical or visual distinction, resulting in the housing development being perceived as a mass entity.

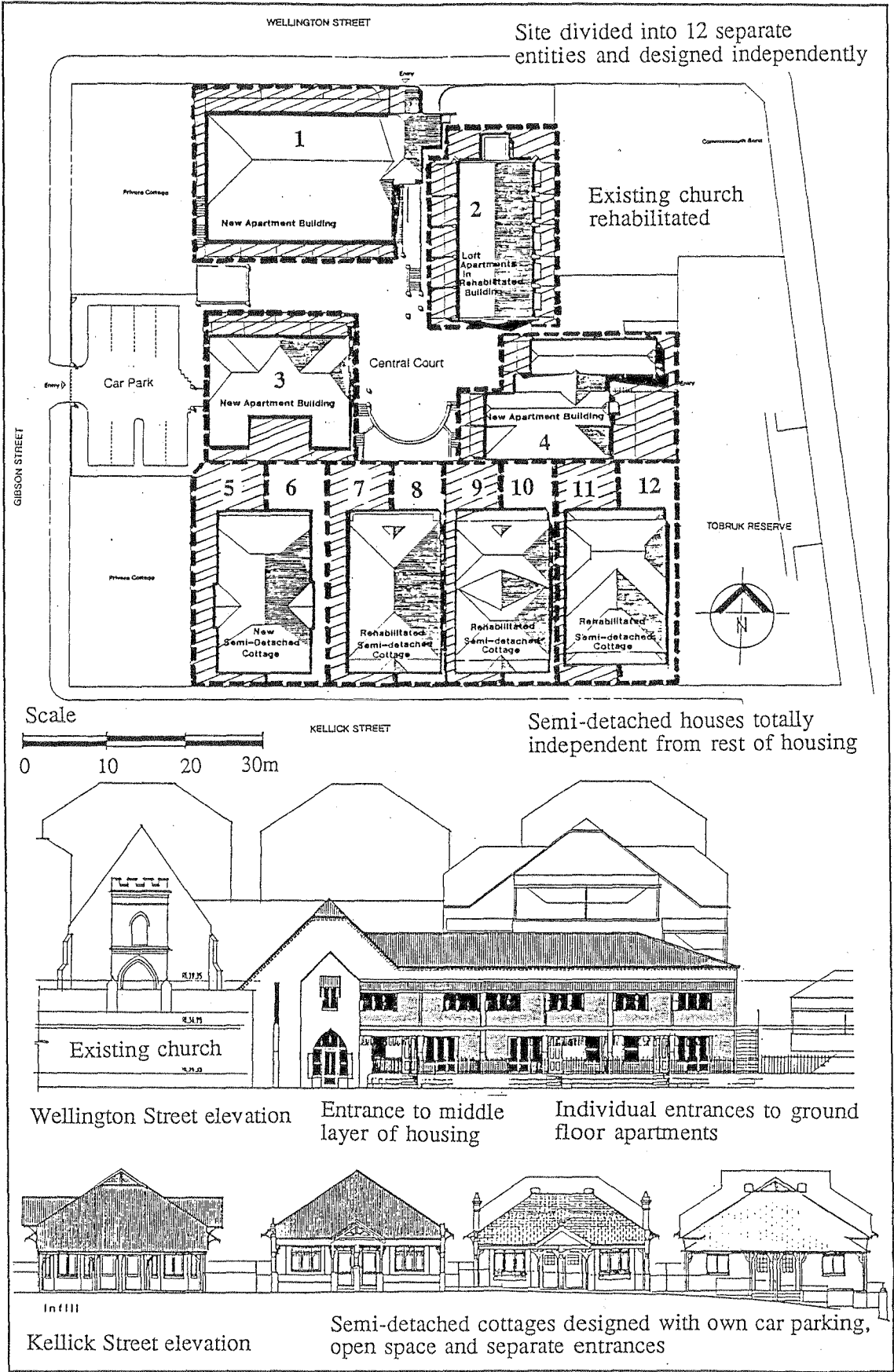


Figure 50. Site plan and elevations for Hungry Hill, Waterloo
(Source: N.S.W. Department of Housing)

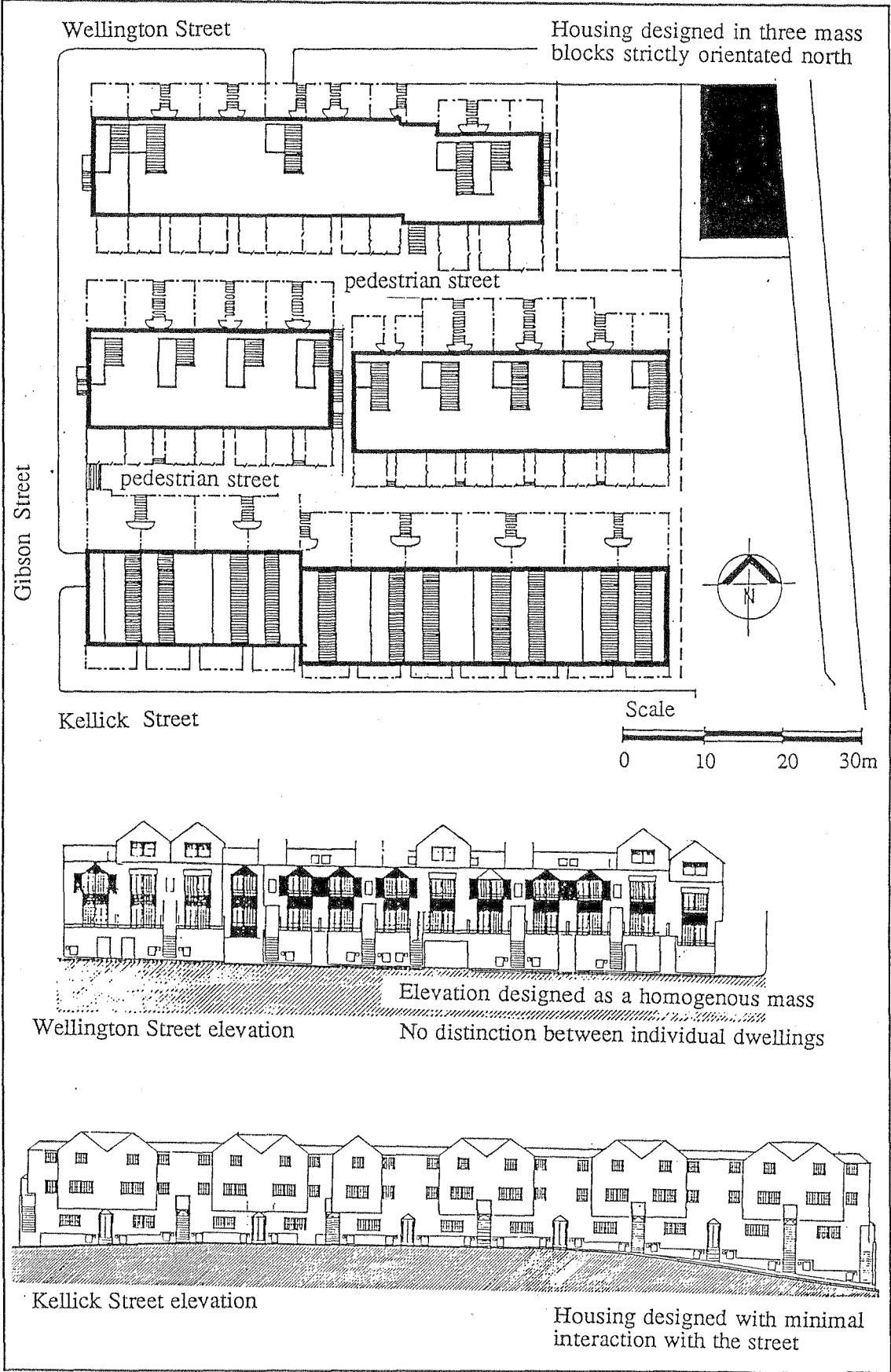


Figure 51. Alternative Low Rise Urban scheme for Hungry Hill, Waterloo
(Source: N.S.W. Department of Housing)

A similar philosophy can also be applied to the design of denser housing. The following apartment building in the inner Sydney suburb of Pyrmont was designed and constructed as the one building, using standardised floor plans. However by adopting a variation of the principles adopted at Waterloo, the designers were able to produce a dense residential development which also incorporated the concept of individual homes.

Initially the building was divided into a series of discrete and independent apartment blocks in order to break down the scale and mass of the project. Each building was then design developed by different architects using the following concept.

The ground floor units were planned as two storey family terraces. These terraces, complete with front and back yards were designed to be totally independent from the other apartments in the development. Three to four levels of apartments were placed above the terraces, each incorporating large front and rear balconies to provide valuable outdoor space and drying areas. These apartments were grouped around generous stairwells and lifts which also provided access to a roof terrace.

In addition the buildings were developed as a number of visually distinctive blocks, thus allowing residents to identify to a specific building rather than to simply a mass housing development. The treatment for each apartment block is shown in the figure below.

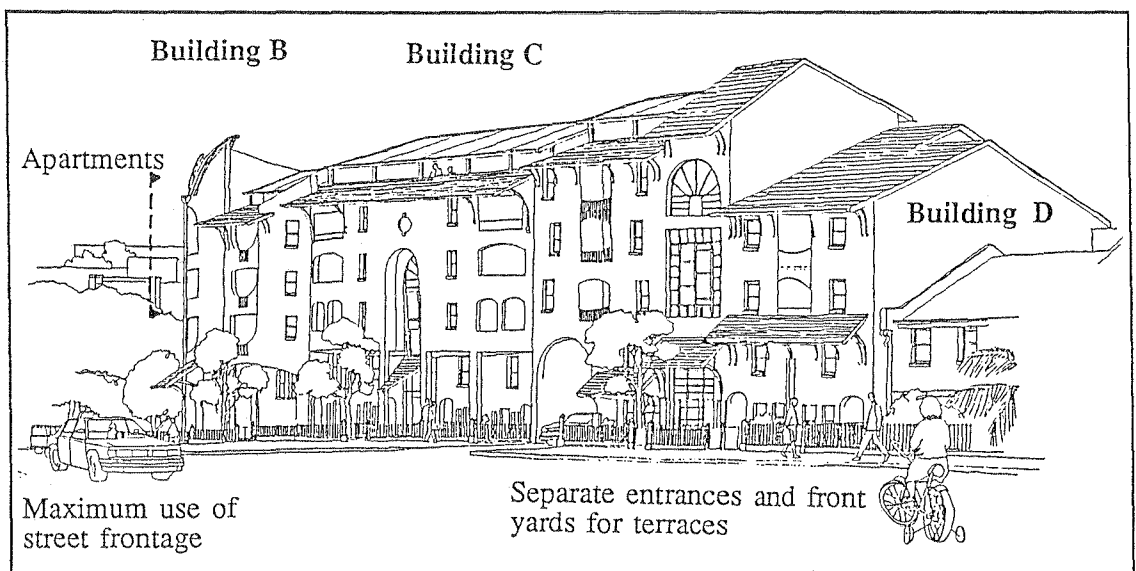


Figure 52. Front elevation, Bowman Street, Pyrmont
(Source: N.S.W. Department of Housing)

Although the development is dense by Australian standards, this approach produced housing which is far more autonomous and private than that usually associated with apartment buildings. For example, the ground floor terrace (family accommodation) can operate independently from other residents. The apartments were designed in small groups serving to maximise the privacy and independence for residents. The scheme also contains little common open space. Instead a roof terrace was provided for each apartment building. Some of these design features can be seen in the ground floor plan illustrated in Figure 53.

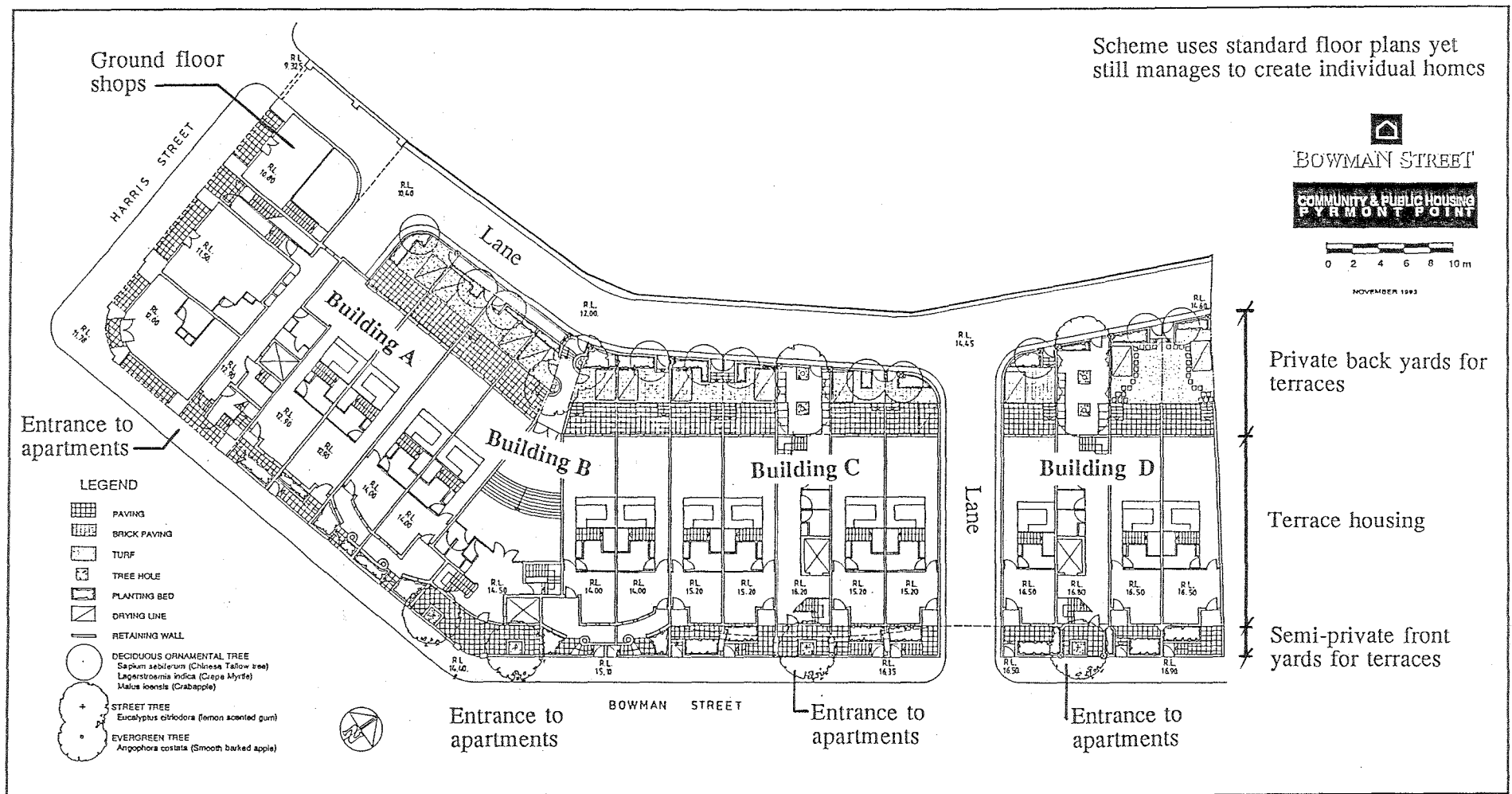
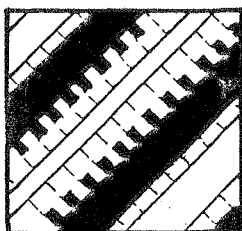


Figure 53. Ground floor plan for Bowman Street, Pyrmont
(Source: N.S.W. Department of Housing)

Principle 3.



Spatial organisation should be determined through the consideration of a range of factors of which solar orientation is not dominant

Rationale

Modernist spatial concepts emphasised solar orientation at the expense of other important considerations such as context, the role of external spaces and the concept of front and back in housing. High Rise in Parkland represents the most extreme application, with spatial organisation being determined primarily as a method for allowing maximum sunlight into dwellings.

Research indicates that solar orientation is just one of many aspects which should be considered in the design of successful housing. In some cases, orientation may have to be compromised in order to achieve other important design objectives.

Since WW II, the design of urban housing in Australia has often been characterised by a north-south orientation. This has repeatedly generated conflict with other important aspects of spatial organisation. For example, back yards have been placed adjacent to the street in an attempt to maximise northerly aspect.

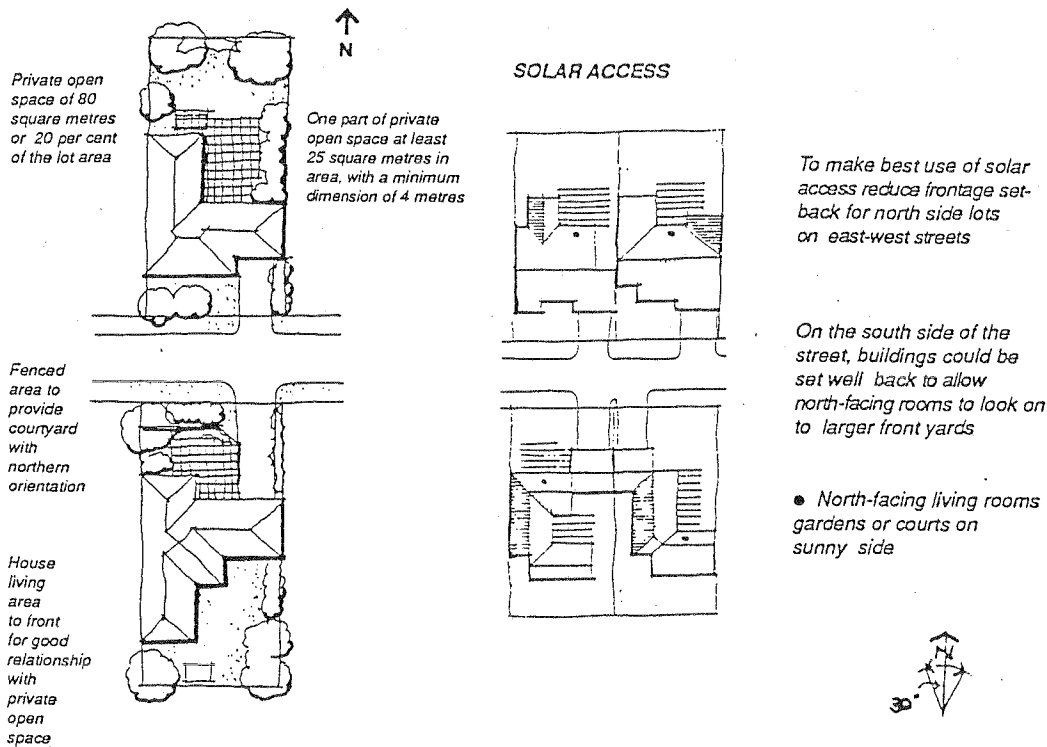
Design Implications

The provision of sunlight in housing should be considered more as an issue of solar access rather than strict building orientation. Architecturally, there are many design elements, materials and devices which can be incorporated in housing to maximise and also control solar access. For example, housing orientated east-west can be designed to minimise the effects of western sun through the use of sun hoods, shutters and verandahs. Back yards can also be shaded through trees and shade structures. Particularly in the case of attached housing, an east-west orientation, together with careful architectural design, may offer as many opportunities for solar access as the more conventionally favoured north-south orientation.

In the event of conflict between orientation and cultural or behavioural conventions, the design should favour the latter. Solar orientation should not be regarded as the primary consideration in the siting of housing, but as one of a number of important considerations such as the relationship of the front of the house to semi-private spaces and the street. Figure 54 illustrates examples from both *Amcord Urban* 1995 and the *Victorian Code for Residential Development-Multi-Dwellings* 1991 where the use of a strict north-south orientation has unsatisfactory dictated spatial organisation in housing.

Victorian Code for Residential Development 1991

These examples ignore the roles and importance of the private back yard and formal semi-private front yard in order to maximise northerly solar access



Amcord 95, Draft 1

This recommendation fails to acknowledge the private back yard as the useable outdoor space, with the semi-private front yard performing a number of different functions

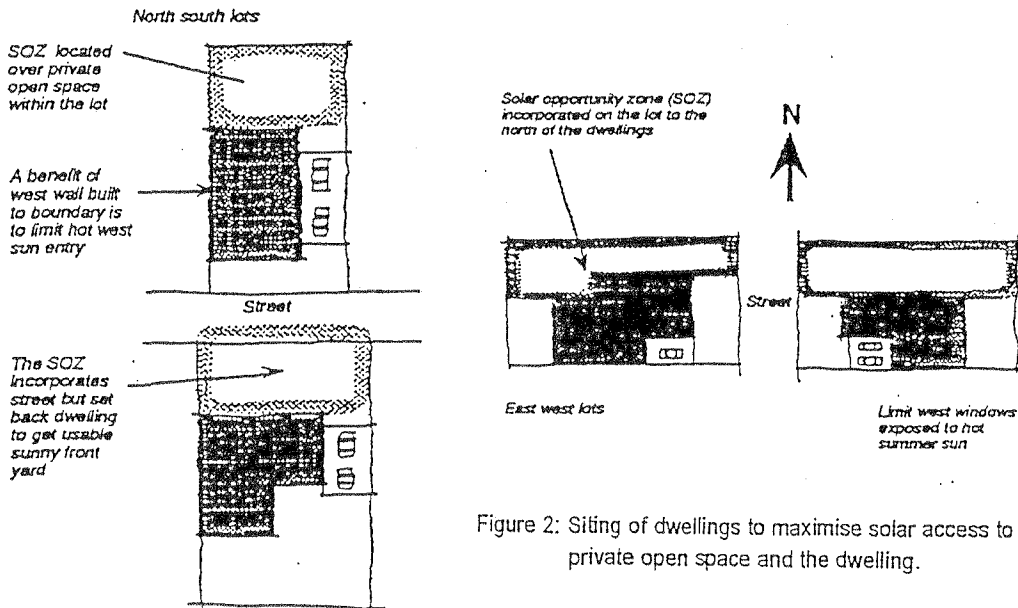


Figure 2: Siting of dwellings to maximise solar access to private open space and the dwelling.

Figure 54. Examples of solar orientation dictating spatial organisation
(Source: Victorian Code 1991, p. 23. p. 18, Amcord 95, p. 126.)

Design Examples

The following designs for infill terrace housing in the inner Sydney suburbs of Glebe and Waterloo demonstrate the use of architectural devices to maximise and control solar access. These terraces, which are shown in Figure 55, were orientated east-west. However through the use of devices such as sawtooth roofs, verandahs, sun hoods and shutters, the solar access was maximised and in the case of the western elevation controlled. The architectural resolution allowed the building to remain orientated towards the street, retaining the traditional relationship for the semi-private front yard and the private back yard.

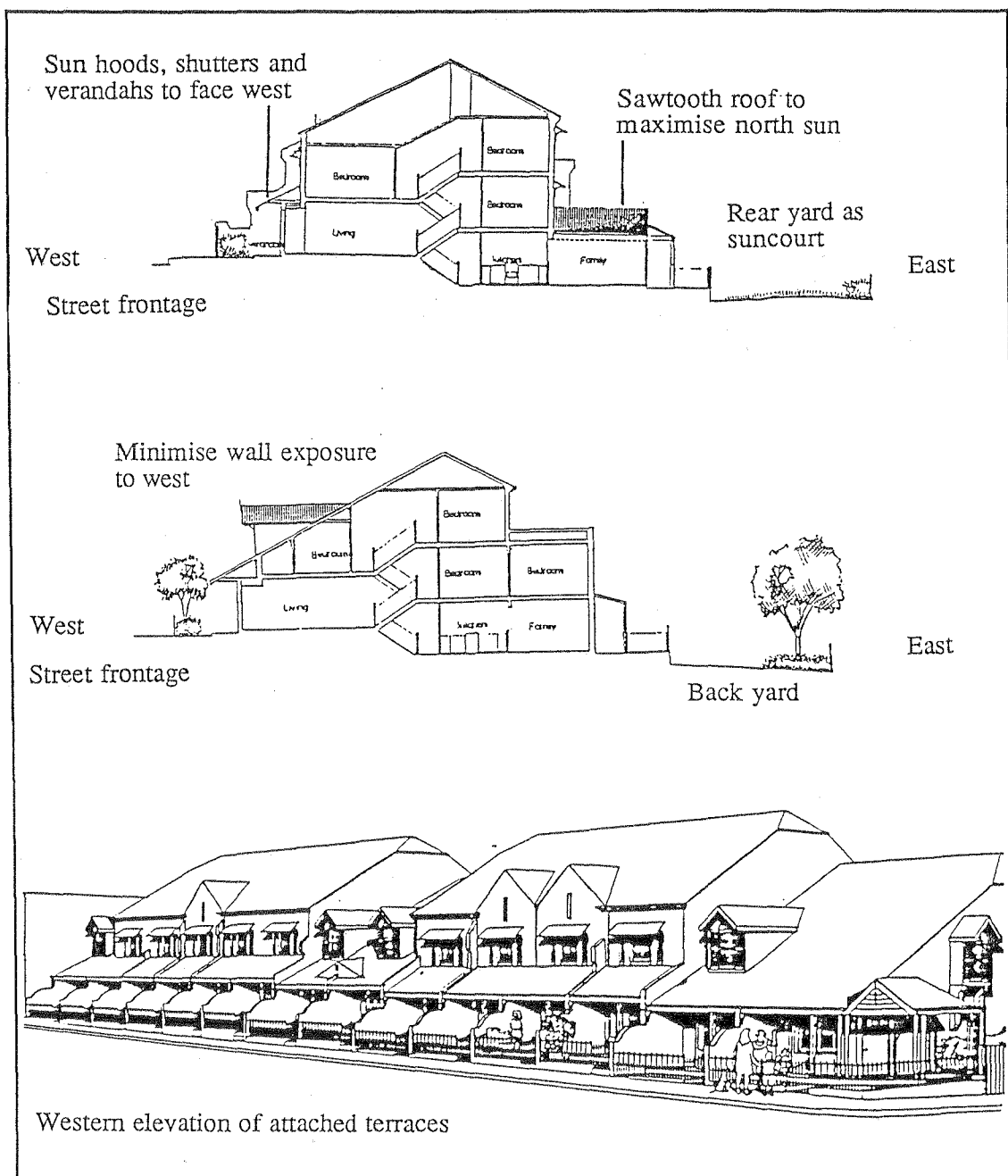
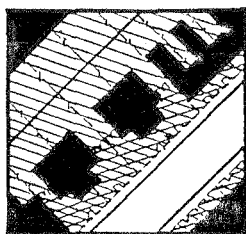


Figure 55. Architecturally resolving issues of solar access
(Source: N.S.W. Department of Housing, Siting and Housing, p. 14.)

Principle 4.



Private and semi-private external spaces are essential components of domestic life and are integral to the concept of home

Rationale

Modernism destroyed the concept of external domestic spaces in housing through the promotion of these spaces as settings for buildings and social interaction. Private gardens were replaced by communal spaces in order to facilitate community spirit and also to provide equality among residents. This approach was complimentary to the Modernist aesthetic of free flowing ground, uninterrupted by fenced private gardens.

In contrast, research clearly indicates that Australians are not enthusiastic users of common open space and have an over riding preference for private open space. Further, there is no evidence that the provision of common open space results in an increase in social interaction among residents, nor does it contribute to a 'sense of community'. However, in some instances such as housing for the aged, it may be appropriate to include limited areas of common open space.

The front yard is a semi-private space which forms an important transitional area between the private domain of the house and the public domain. Modernist spatial concepts rarely provided this space. Research shows the front yard as an extremely complex space, particularly in the context of Australian housing. It performs a number of psychological, functional and social roles.

Research indicates that properly defined external spaces such as private and semi-private are essential in providing security, privacy, a sense of ownership and behavioural cues in housing. Failure to recognise the importance of these spaces can contribute to a stressful and isolating residential environment.

Design Implications

Successful external domestic spaces require the establishment of a clear and logical spatial hierarchy. The development of an appropriate hierarchy requires careful consideration and a thorough understanding of the role of specific spaces such as semi-private, private, public and common open space. In addition, it is essential to establish the appropriate edges between these spaces. Particularly in the case of urban housing, there are no definitive rules regarding the design of external spaces. Unlike the design of specific rooms such as bedrooms and bathrooms, there are no minimum standards for back yards and front yards. Instead the design will vary according to the individual site and the type and density of housing. It is however essential to understand the roles of these spaces and more importantly, to provide suitable edges between these spaces.

The difficulty in establishing appropriate spatial hierarchy in housing is demonstrated in the following figure from *Amcord Urban*. This document contains many references to the different types of external spaces found in housing. When dealt with in isolation, the information regarding the role and importance of these spaces is limited but nevertheless generally correct. However, as illustrated in the figure, confusion and inconsistencies arise as soon as these spaces are placed in a form of spatial hierarchy.

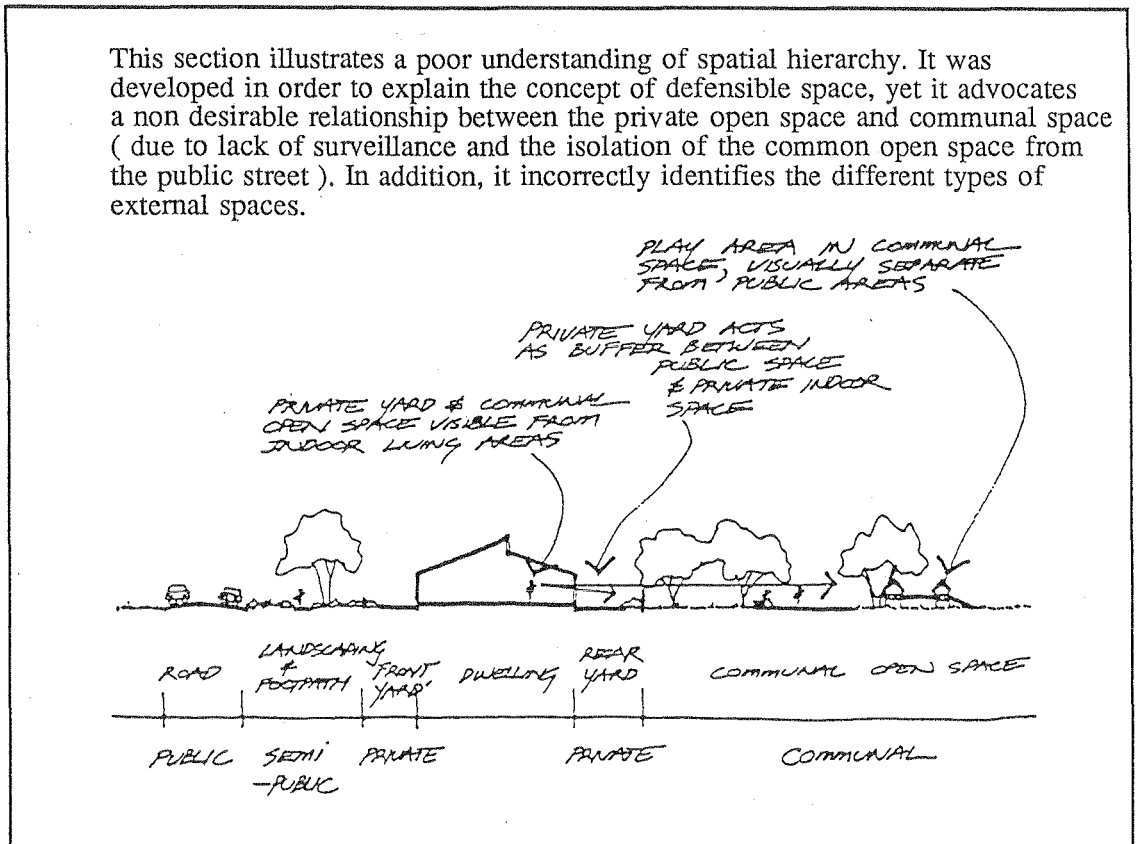


Figure 56. Inappropriate spatial hierarchy in housing
(Source: Amcord 95, p. 120.)

Integral to the concept of spatial hierarchy is the notion of transitional spaces. It is important to ensure that some form of semi-private transitional space is defined at the formal entrance point to housing. This will vary according to the density of the development from a simple threshold treatment to a large formal front yard. Given that the semi-private front yard has many important uses, care should be taken not to compromise its functions, for example, by placing car parking in the front yard.

External spaces are important for clearly delineating the territory of the individual home. The concept of space as territory relies heavily on the use of physical boundaries to define and regulate space. As housing increases in density, it becomes increasingly important that territory be defined by physical boundaries such as walls, fences, and screens. Physical delineation of space is necessary for the provision of privacy and ownership. As discovered in Chapter IV, the provision of boundaries generate the necessary cues to regulate behaviour and consequently contribute significantly to a reduction of potential stress and conflict in housing.

Design Examples

None of the following examples have adopted the same form of spatial hierarchy and organisation. Instead each demonstrates the modification of the basic principles regarding the design of external space to meet particular residential needs and specific site conditions.

For example, the following scheme for shop top housing in Dacey Gardens, Sydney, required a solution which accommodated not only a car space and back yard but also some form of semi-private transitional space in one narrow lane frontage. However, by understanding the role of these spaces and the also the behavioural symbols and cues that can be achieved through design elements, the housing design manages to achieve all of the important social and functional requirements expected from external spaces.

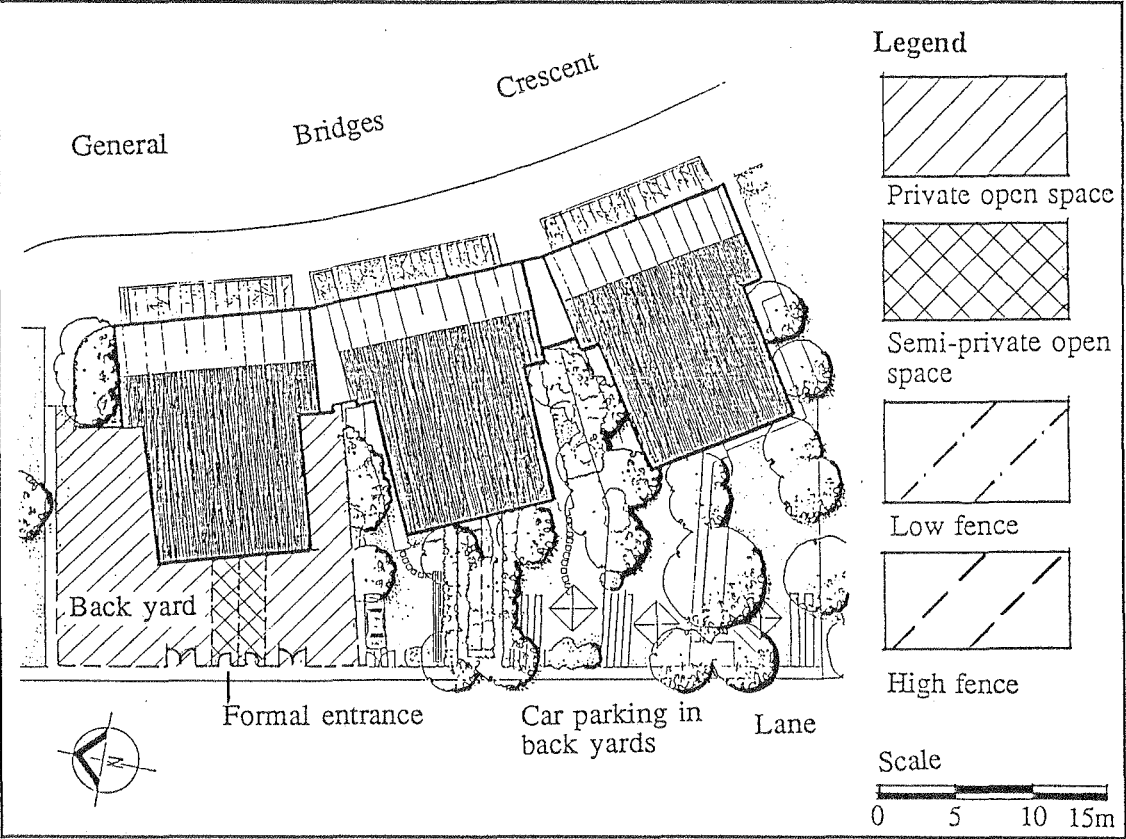


Figure. 57. Providing a formal entrance and back yard for shop top housing
(Source: N.S.W. Department of Housing)

As stated previously, it may be desirable to provide limited areas of common open space in housing for the aged. The following scheme for 24 apartments for the elderly in the inner Sydney suburb of Glebe incorporates areas of common open space, in addition to individual external spaces. As shown in the ground floor plan in Figure 58, the design involved the consolidation of an area of common open space into a small ‘front yard’ for the apartment building. A community room sited adjacent to this space, created the possibility for indoor activities to spread out into the garden. This design approach produced a pleasant garden setting for the housing, although not at the expense of semi-private space.

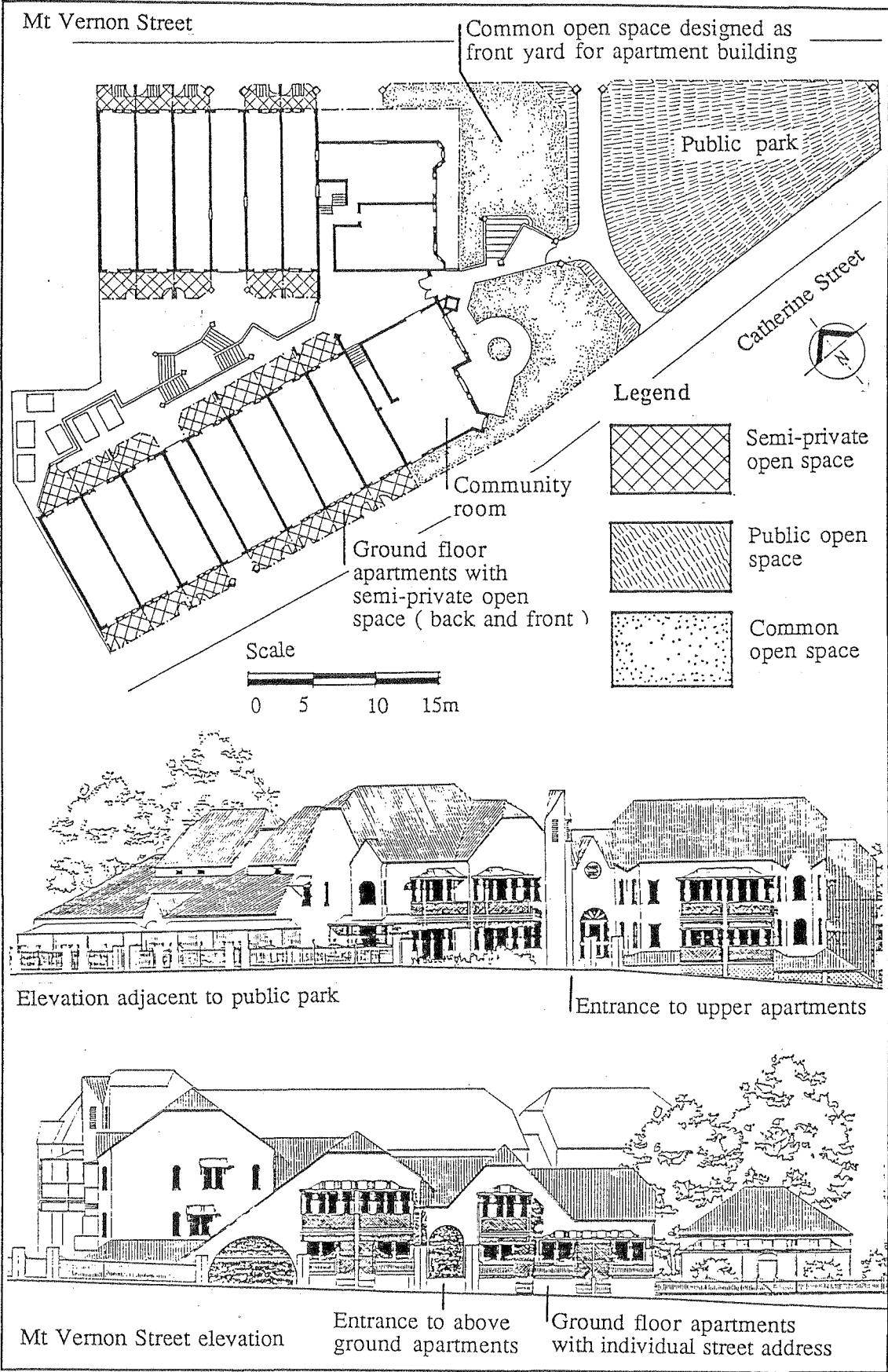


Figure 58. Ground floor plan and street elevations, Catherine / Mt Vernon Street
(Based on plans from N.S.W. Department of Housing)

The design cleverly maximised the three street frontages, allowing the majority of ground floor units to address directly off the street through individual front yards. As stated previously, there are no definitive rules regarding the design of external spaces. This is definitely the case with this development, where the irregular shaped site led to some innovative design solutions.

For example, semi-private front yards were provided on the courtyard side of the ground floor apartments. Obviously the size of the site did not allow for private back yards so instead the apartments were designed with two front yards, one addressing the street and the other the courtyard. This relationship is shown in detail in the figure below.

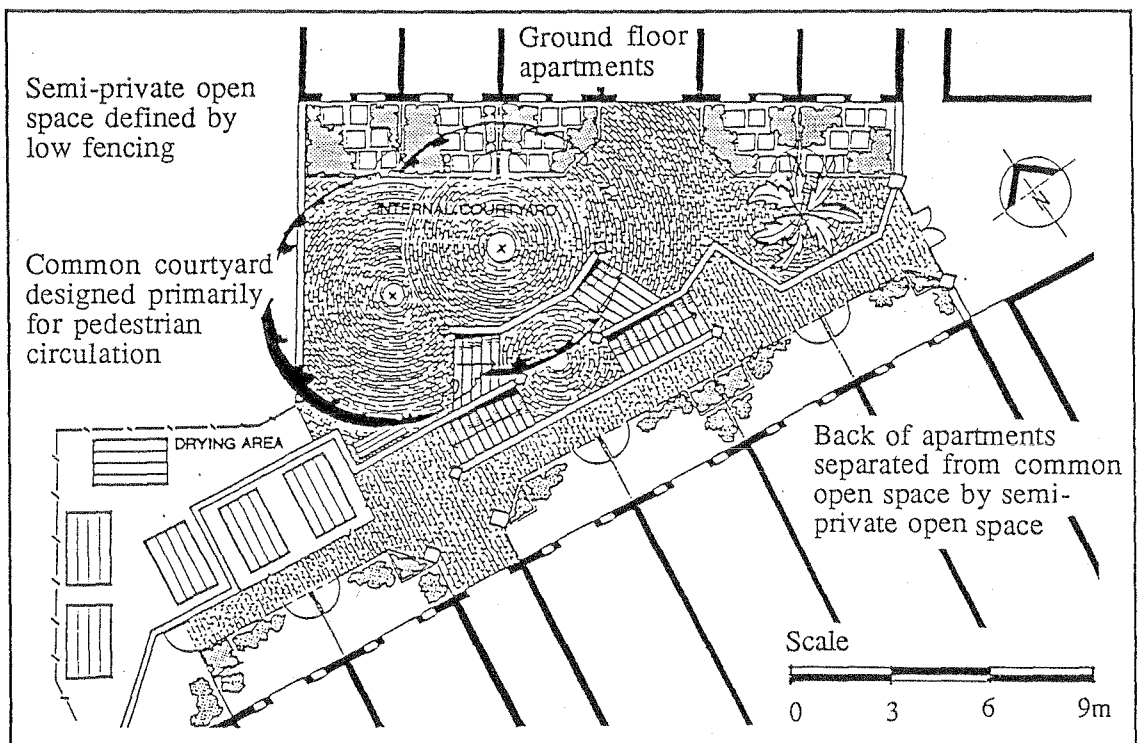


Figure 59. Semi-private front yards, Catherine / Mt Vernon Street, Glebe
(Source: N.S.W. Department of Housing)

This transitional space is multi-functional, serving to :

- a) protect the privacy of the apartments;
- b) provide small areas of gardens which can be maintained by residents;
and
- c) provide an area which allows interaction, either passively or actively,
with both the street and the rest of the housing development.

The above ground apartments also incorporated large balconies in lieu of semi-private gardens and were assigned a particular street frontage as an address. The internal courtyard, which was necessary in order to provide solar access and to minimise over looking, was designed primarily as circulation, with most of the open space allocated to ground floor residents as private gardens.

As discovered in many post-occupancy evaluations, housing the elderly and children in close proximity can often result in conflict. The following housing development, was designed to accommodate both the elderly and families with children. A key element in determining the success of the design was the clear delineation of territory.

Each family house was provided with a private backyard and independent entrance. Similarly, the apartments for the elderly incorporated individual entrances, semi-private yards (front and back), together with an area of common open space and car parking. The design, however, did not seek to totally isolate the elderly from the family housing. Instead, the area of interaction was restricted to the street frontage and the adjoining semi-private front yards. Figures 60 and 61 illustrate this careful delineation of external spaces.

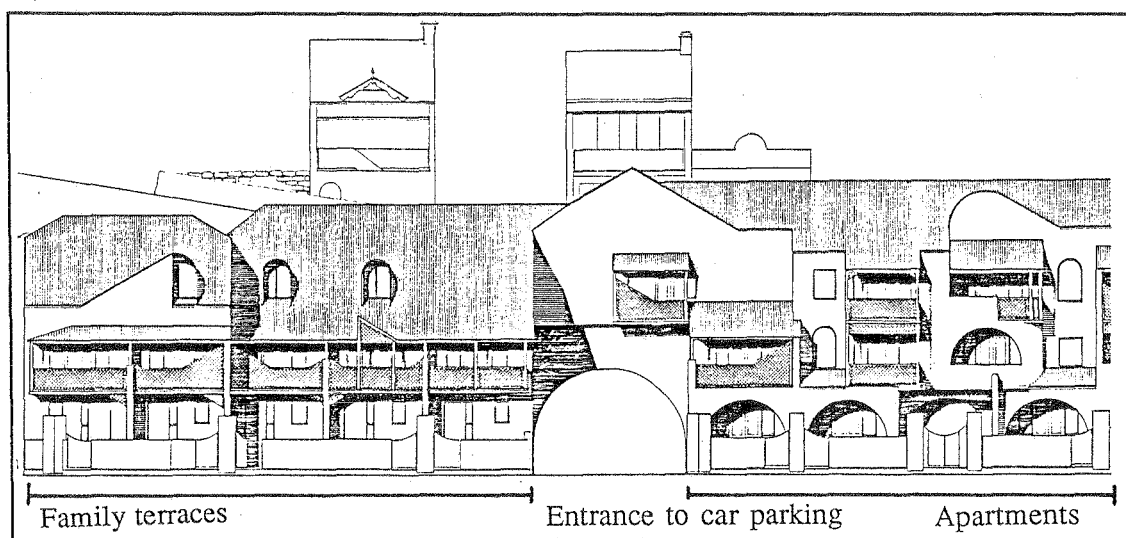


Figure 60. Street frontage, Wentworth Park Road, Glebe
(Source: N.S.W. Department of Housing)

The design of successful external spaces in urban housing requires a high degree of finesse and resolution. This is evident in this final example, which incorporates both family housing and apartments on a single site. The site planning for this project, known as Hungry Hill, was discussed previously as part of Principle 2.

The detailed design for the housing incorporated a number of different types of external spaces depending on factors such as level changes, orientation, adjacent uses and the scale of the buildings. These spaces were defined using a range of detailing including metal fencing, retaining walls and masonry piers, picket fencing, solid timber fencing, kerbs and garden beds. Retaining walls, terraces and steps were used to create maximum areas of useable space on a sloping site. Every area of the site was carefully considered and resolved in detail. As a result, the housing development is characterised by external areas which are both functional and aesthetic, yet also unique to that site. These spaces have their own character and specific uses and have little in common with the free flowing landscape which distinguished many Modernist housing developments. This is evident in the detailed site plan shown in Figure 62.

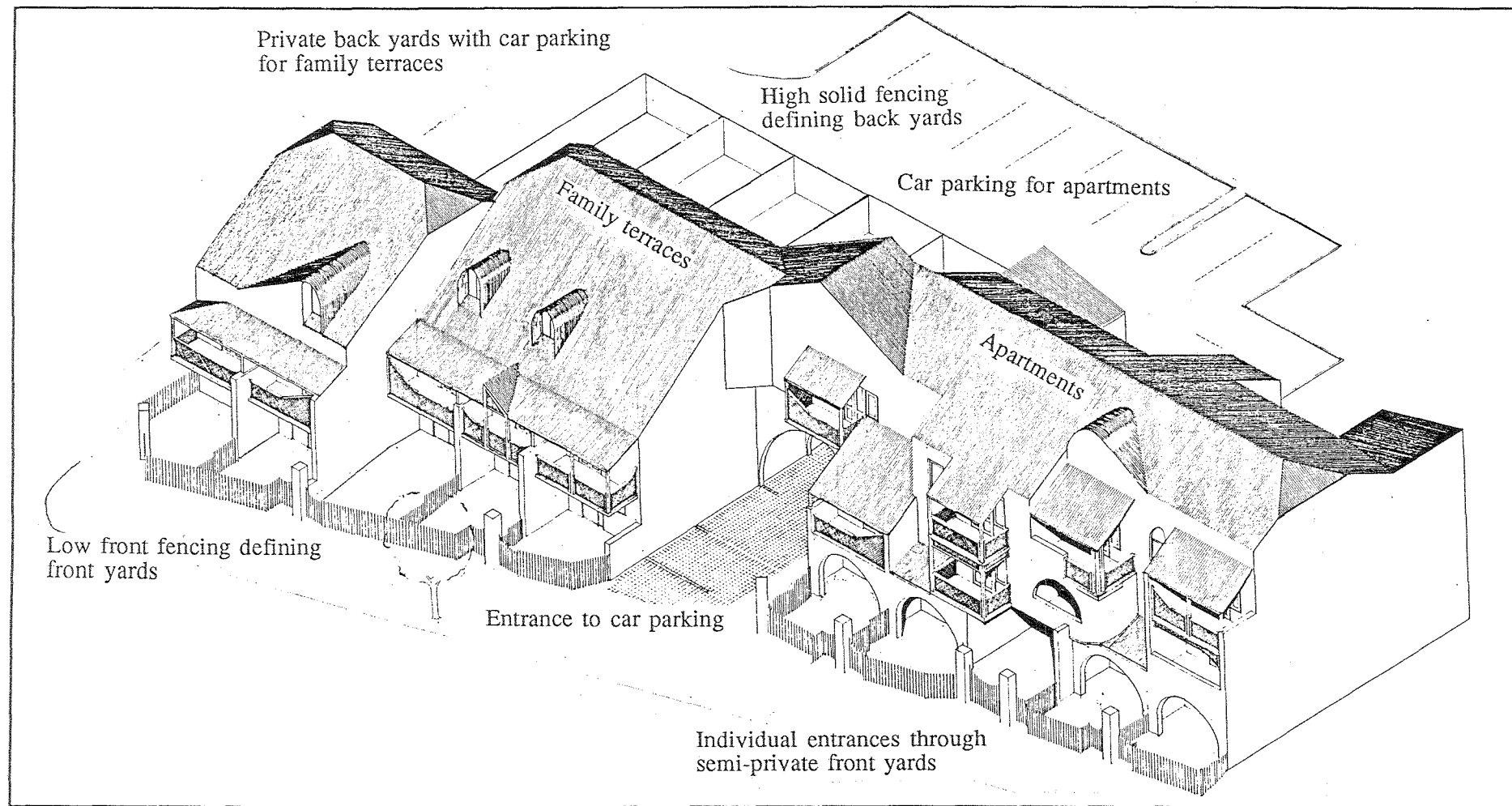


Figure 61. Delineation of external spaces, Wentworth Park Road, Glebe
(Source: N.S.W. Department of Housing)

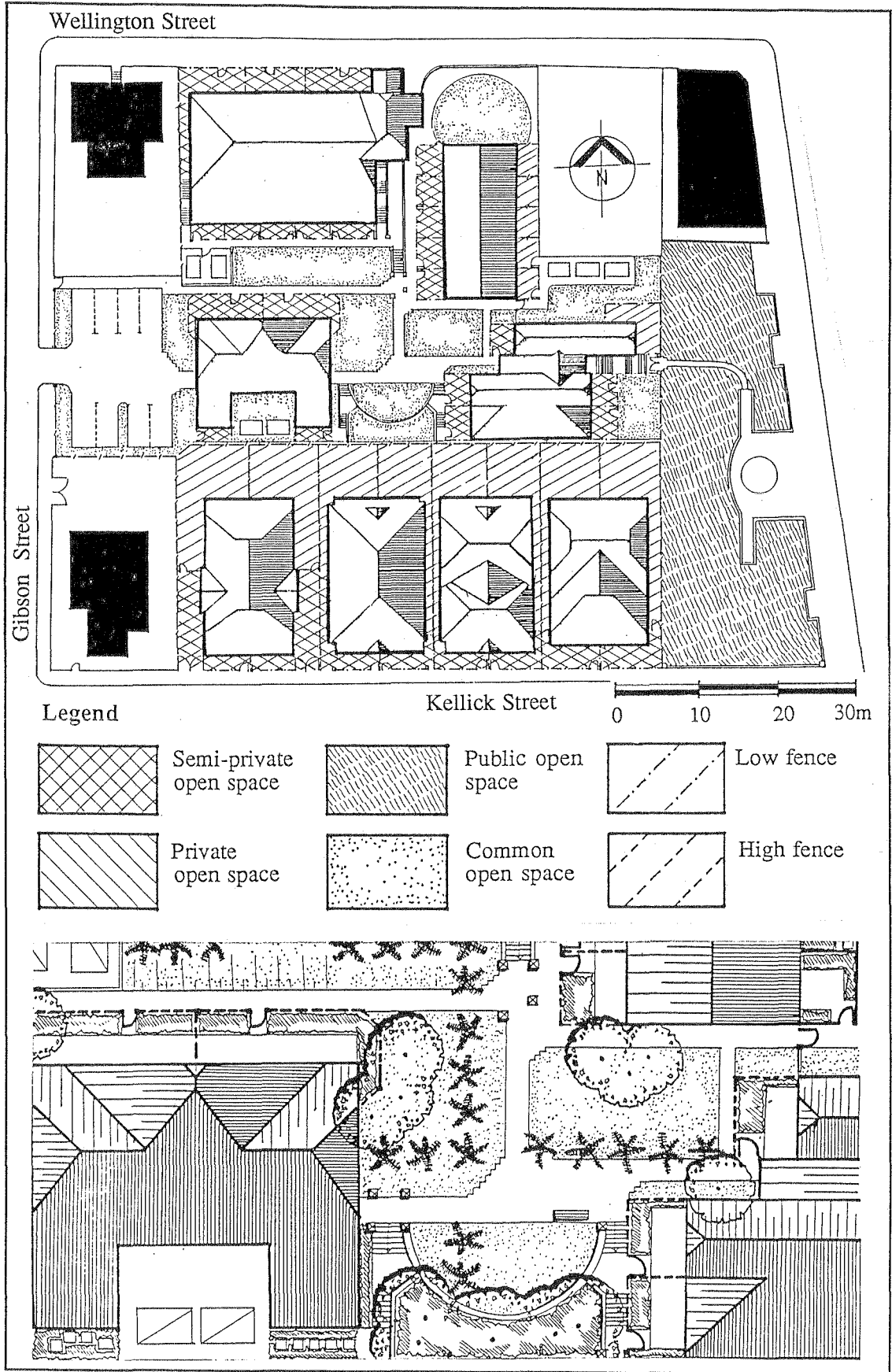
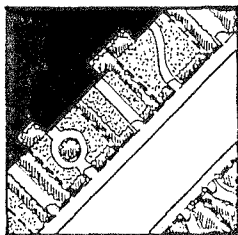


Figure 62. Types of external spaces and design elements, Hungry Hill, Waterloo
(Based on plans from N.S.W. Department of Housing)

Principle 5.



Housing should be designed as a framework which can be personalised and modified by residents

Rationale

Modernism emphasised a unified character for housing in an attempt to prevent class differences from being discernible in the built fabric.

Over a period of time, this egalitarian strategy became simply regarded as a Modernist architectural 'style'. This style produced urban housing which was not only institutional in character but which also could not be easily personalised by residents.

Home is an important symbol of aspiration, achievement and status in society.

It is important that residents be able to determine the image they wish to project to the community about their home, and consequently themselves. Research indicates that this is particularly important for new immigrants.

Design Implication

Successful urban housing requires a balance between standardisation and openendedness. The design must establish a firm framework which ensures qualities such as territory, privacy and behavioural cues but at the same time allows the flexibility for residents to personalise their housing. Allowing residents the opportunity to modify their homes has many advantages. It ensures:

- a) that the character of the housing will age successfully as it is modified by successive residents according to their tastes and aspirations; and
- b) a domestic rather than institutional character for the housing.

External spaces, particularly the semi-private front yard, offer residents the easiest and least expensive opportunity to personalise their homes. Gardening, fencing styles, individual letterboxes, ornaments and pot plants are all popular ways for residents to personalise their homes. In the case of tenants, gardening often represents the only way they can place their mark on their home. Balconies and verandahs provide a similar role for above ground apartments. Residents can use awnings, pot plants and furniture to visually distinguish their apartments and hence themselves from other residents.

Designers should facilitate the personalisation of housing by:

- a) firstly, ensuring that semi-private spaces, verandahs and balconies are provided in housing; and
- b) secondly, by designing these spaces so that they can be easily modified by residents. For example, this can be achieved through the provision of gardens in private and semi-private space and through the design of balconies and verandahs with hanging points and ledges for awnings and pot plants.

Depending on the complexity of the project and prior knowledge of the residents, it is also possible to provide residents with some choice in aspects of housing. For example, residents may be offered a choice of elements such as fencing, paving, balustrades, colour schemes and planting. This strategy can also be applied to the design of the dwellings, allowing residents a choice of floor plans, colours schemes and materials.

Design examples

Semi-private spaces are most easily provided adjacent to ground floor housing. The domestic work of the Dutch architect Herman Hertzberger however demonstrates the design of stair cases and balconies as semi-private spaces.

Hertzberger has developed two stair case designs which allow above ground residents to establish an individual identity in urban housing. The first design involved the provision of a transitional space between the front door of apartments and a common stair case. As discovered in post-occupancy evaluations, high rise housing has usually been designed with no transitional space between the private house and the common stairwell or corridor. Hertzberger's approach creates a secured entrance space which also performs the functions of the semi-private front yard. This space can be used by residents to personalise their home through the provision of pot plants, pictures and furniture. Additionally, this space offers increased surveillance for the stair case and also contributes to a domestic character for the housing.

Hertzberger's second design, which is illustrated in Figure 63, focused on the use of external staircases for access to above ground apartments. As Hertzberger explains, Dutch housing has traditionally resolved access to above ground apartments very carefully, aiming to give each dwelling its own individual front door with clear access from the street.³ This scheme, through the provision of stair cases directly accessible from the street, treats the above ground balconies as semi-private front yards. Residents and visitors gain access to front doors through these spaces. This allows residents not only the opportunity to display a personal 'front' to the street but at the same time improves the surveillance of the street and public domain.

³ Herman Herzberger, *Lessons For Students in Architecture*, trans. Ina Rike, (Rotterdam : Uitgeverij 010, 1991), p. 51.

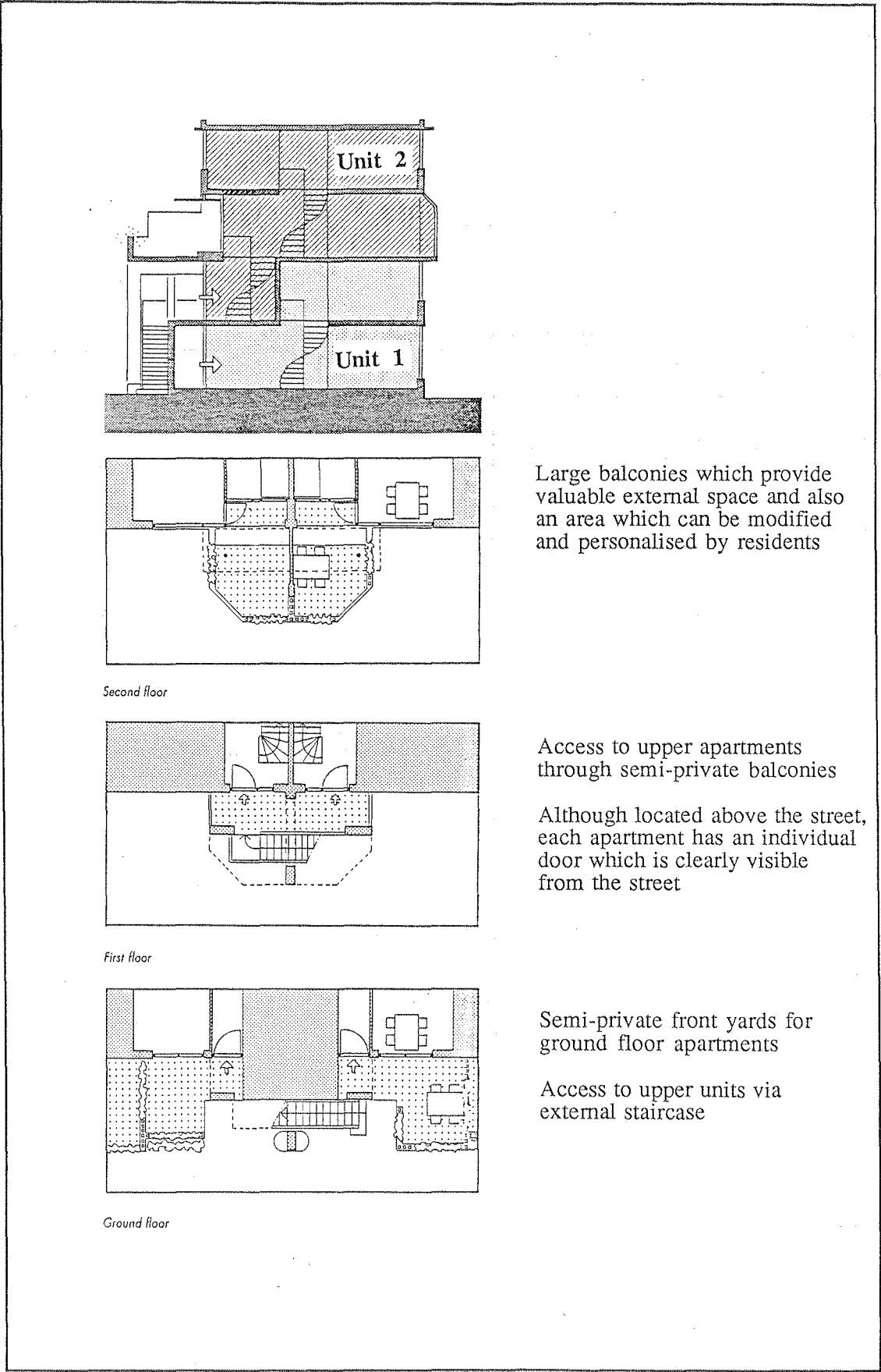


Figure 63. Stair case design directly linking above ground apartments to the street
(Source: Hertzberger, *Lessons For Students in Architecture*, p. 52.)

* * *

As has been demonstrated through the course of this final chapter, research from other disciplines such as history, sociology and behavioural studies, offer clear guidance for the development of successful design principles for spatial organisation in urban housing. The five principles outlined in this chapter have been developed from the values of the broader population, but at the same time continue to allow the design profession to be innovative in their design solutions.

The application of these principles should overtime contribute to the greater acceptance of urban housing in Australia. Further, these principles also offer clear direction for the spatial rehabilitation of many existing Modernist housing developments. An example of one such approach for the rehabilitation of Villawood, a Low Rise Urban housing development discussed extensively in Chapters III and IV, can be found in Appendix 1.

CONCLUSION

This thesis has explored the importance of spatial organisation in establishing home in Australia. Through the course of this study it has become apparent that the siting of dwellings, external spaces and associated facilities is extremely influential in determining the success of housing, particularly urban housing. The increased density associated with urban housing creates additional pressures and difficulties in achieving important residential qualities. Spatial organisation is extremely important in achieving many functional, psychological and social qualities relating to home in the Australian context. Failure to recognise this can result in unsatisfactory housing, and more importantly, can contribute significantly to people regarding their houses as purely dwellings rather than homes.

As demonstrated in Chapter V, an understanding of spatial organisation does not require a slavish return to traditional spatial concepts. Rather, the principles developed in this thesis still allow for design innovation, but from within well defined cultural and behavioural boundaries. Application of these principles should contribute significantly to the development of urban housing which meets the aspirations and needs of the broader Australian population.

Unfortunately many characteristics of Modernist spatial concepts have become ingrained in planning and architectural theory and as a result the inclination of much of the design profession remains at odds with the broader Australian population. Many contemporary designs for urban housing still reflect a Modernist attitude towards spatial organisation. This attitude is most strongly reflected by the design profession's continuing desire to produce innovative housing. Unfortunately this innovation does not usually incorporate current housing research, instead aiming at originality for its own sake rather than successful housing. Ironically, the innovative design usually includes the replication of Modernist spatial concepts.

The persistence of these concepts is clearly evident in the outcomes of the 1994 N.S.W. Model Urban Housing Program. This program aimed 'to produce excellence in the design of urban housing,'¹ with one scheme in particular being judged as outstanding. This design for St. Clair incorporated two major housing concepts; the first involving the use of semi-detached houses and the second the development of housing clusters. Examination of these concepts, particularly the semi-detached models, reveals a fundamental lack of understanding regarding the role and importance of spatial organisation.

Two semi-detached models were developed, both involving the placement of the second dwelling directly behind the other. This siting configuration was based primarily on achieving north-south solar access into the dwellings. Unlike the semi-detached housing model described in Chapter 1, where both dwellings share the street frontage, these models turn the 'side' of one dwelling to face the street. As a result, important spatial qualities such as private and semi-private open space, individual street address and the

¹ Peter Moffit, 'Model Urban Housing Program', in *Architecture Bulletin*, March 1994, p. 5.

concept of front and back in housing are comprised in order to achieve maximum northerly aspect. Figure 64 demonstrates the spatial differences between these two models.

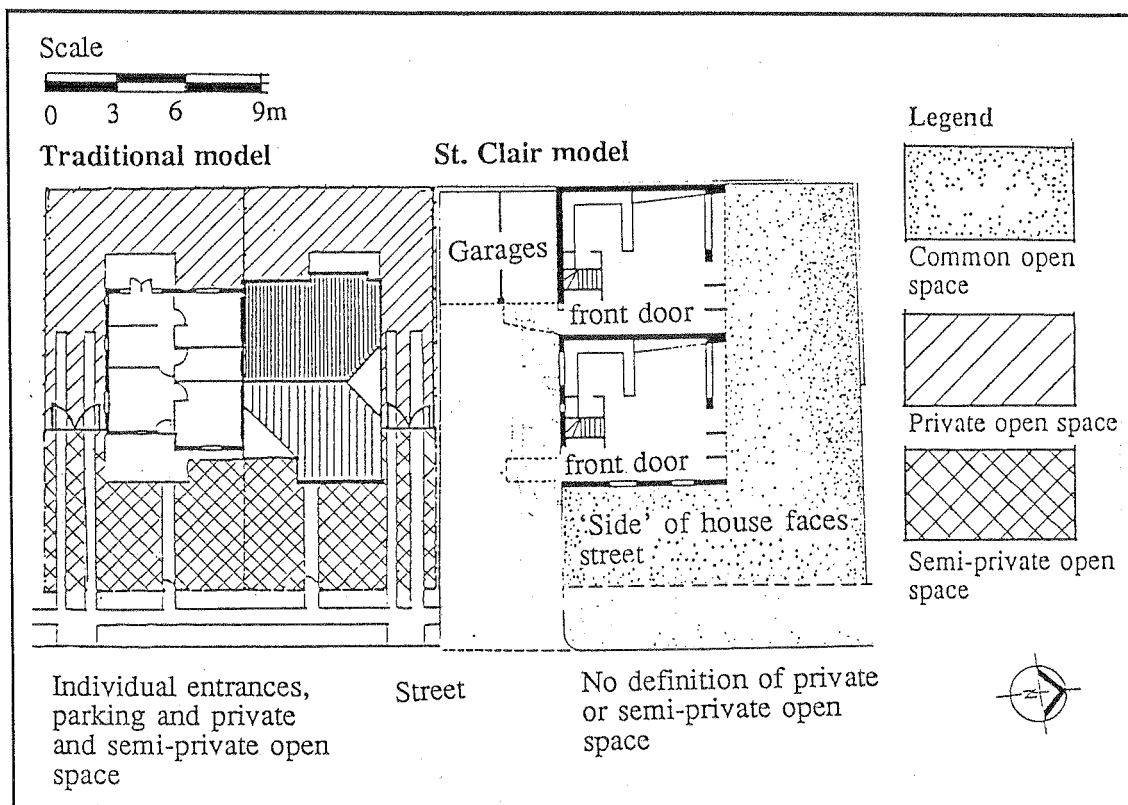


Figure 64. Spatial differences between the traditional semi-detached house and the semi-detached model proposed for St. Clair
(Source: N.S.W. Model Urban Housing Program 1994)

Professor Winston Barnett described the merits of the design, which can be seen in full in Appendix 2, in the following passage:

Its innovation- as it makes a specific place with a clear hierarchy of public and private spaces, with sensitively designed buildings of character, in which the whole is greater than the sum of parts - owes much to an architectural imagination.²

This statement is quite revealing. Firstly, as discussed previously, the design does not include a clear hierarchy of public and private spaces. Secondly, the scheme is praised for being mass rather than domestic in nature. This comment is in keeping with a Modernist housing ideology where the expression of the total housing mass was considered more desirable than representing the housing as a series of individual homes.

Examination of many ecological design approaches in housing also reveal Modernist spatial principles. These concepts are regarded by many as being environmentally sensitive and responsible. This is clearly visible in the 1993 Green Peace publication *Strategy For a Sustainable Sydney*. As part of the strategy, Green Peace presents an urban consolidation model which involves

²

Winston Barnett, 'Medium density housing breaks new ground', in *Architecture Bulletin*, March 1994, p. 21.

the incremental replacement of existing housing with denser housing forms.³ The model also proposes the reduction of private open space in the now denser housing in order to provide a large area of common open space. Interestingly, this concept which is shown in the figure below, is not far removed from Walter Bunning's ideas discussed in Chapter III.

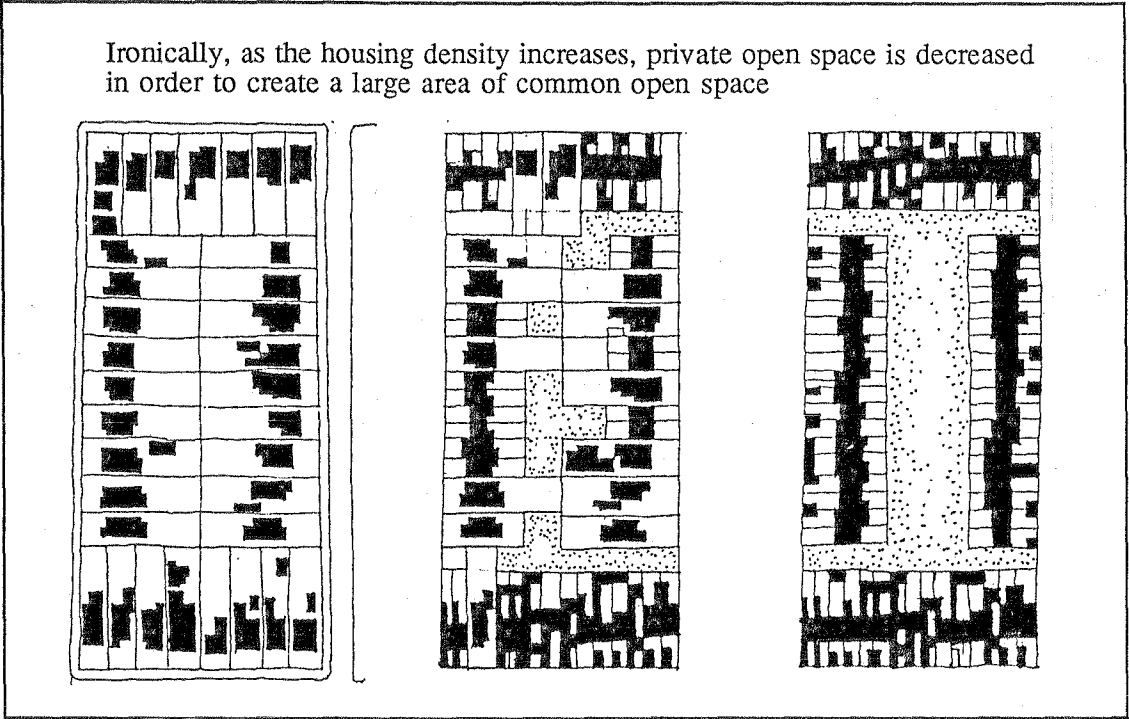


Figure 65. Green Peace's model for urban consolidation
(Source: Green Peace, *Strategy For A Sustainable Sydney*, p. 13.)

In addition, Green Peace specifically targets the individual private back yard for being environmentally unsound:

The increasing desire for individual private backyards has eroded the "public realm" in suburbia and elsewhere. It has placed enormous economic pressures on individuals and community, and has had significant impacts on the natural environment.⁴

Similarly to Modernism, the Green Peace proposals disregard behavioural and cultural conventions in order to change the way people live. These models, like Modernism are based on deterministic design principles.

The persistence of these spatial concepts reflects the lack of understanding regarding the role of spatial organisation in housing - hence the need for this research. However, during the course of this thesis it has become clear that since World War II, many design professionals have developed a distaste for the aesthetic of the most popular Australian home - the detached house with front and back yard, and as a result are dismissive of its qualities and functions. As discussed previously in Chapter III, the introduction of Modernist housing principles in Australia coincided with criticism from the

³ Greenpeace, *Strategy for a Sustainable Sydney*, Greenpeace Australia, 1993, p. 12.
⁴ *ibid.*, p. 14.

design profession regarding the merit of the detached house in the suburbs. This attitude was evident in the writings of such notable critics as Robin Boyd and Don Gazzard. The individual detached house with decorative front yard and private back yard was viewed as 'featurism gone mad' whereas in contrast, Modernism produced urban housing where 'the whole was greater than the sum of parts'. It seems that this attitude still persists today. Thus the continuance of Modernist spatial principles may be partly attributable to the inability of the design profession to accept many aspects of Australian housing and hence the Australian perception of home.

The persistence of this attitude will unfortunately restrict the successful development of urban housing models in Australia. Hopefully, research such as this, will prove that it is possible and desirable to develop contemporary design theory which balances the needs of the broader population against the inclinations of the design profession. And further, that research from other disciplines, particularly from the fields of sociology and behavioural studies, has a major role to play in the design process.

To finish with the words of Clarence Stein:

The planner's subject...is man. It is his fellows and their reaction to their environment which he must study and understand. I do not mean to suggest that taste and imagination and a feeling for good or great design in form and colour are not essential requirements of the community planner and architect. But they are not enough.⁵

⁵

Clarence Stein, *Towards New Towns For America*, rev. edn, (Cambridge, Mass : MIT Press, 1966), p. 226.

APPENDIX A

The Spatial Rehabilitation Of Villawood

This proposal for the rehabilitation of Villawood, a Low Rise Urban housing development, was developed by the N.S.W. Department of Housing in association with the University of Technology, Sydney. It demonstrates the application of the principles outlined in Chapter V to resolve some of the spatial problems associated with Modernist housing developments.

Central to the proposal, which is shown in Figure A, is the creation of a public street through the centre of the housing super block. This new street is intended to:

- a) 'bust' the super block enclave in order to integrate the housing back into the existing urban fabric;
- b) create a public frontage for the large internal area of common open space - hence changing it into public space; and
- c) provide a street address for the housing which has been previously isolated in the centre of the super block.

In addition all external spaces around the housing have been rationalised in an attempt to establish a clear hierarchy of public and private spaces in the housing development. Part of this strategy included the resumption of all pedestrian walk ways and the majority of common open space into private, semi-private or public open spaces.

Although this proposal has not been implemented, it is guaranteed to improve many of the problems associated with the housing development. For example, this scheme will provide much of the housing with a clear address off a public street rather than an access way or pedestrian walk way. As a result, the housing will be identified as part of a public street rather than part of an enclave. Any attempt to integrate the housing into the surrounding urban fabric will contribute significantly to breaking the stigma associated with the housing.

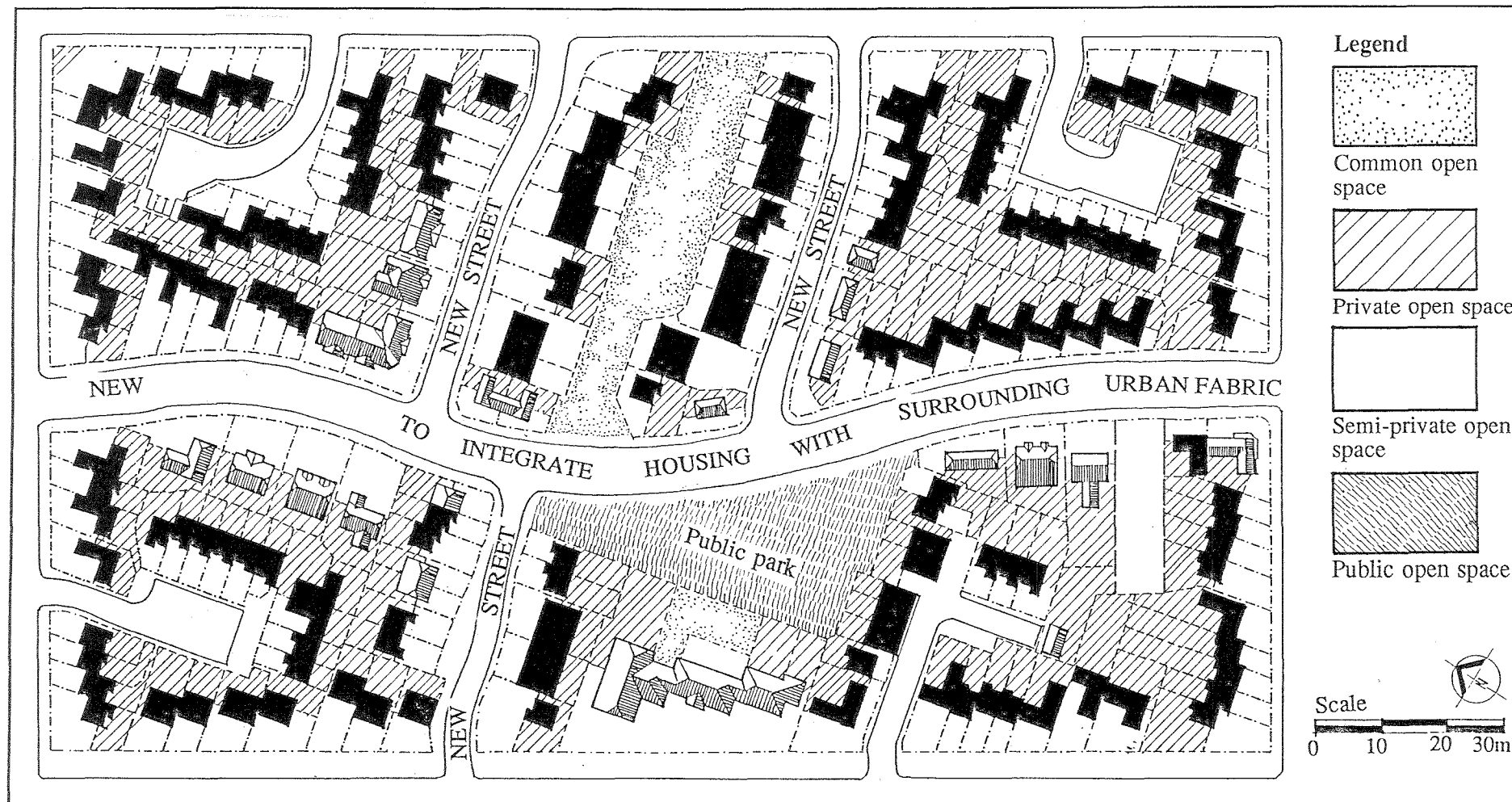


Figure A. Proposal for the spatial rehabilitation of Villawood, a Low Rise Urban housing development
 (Based on plan from N.S.W Department of Housing in association with the University of Technology, Villawood Infront, p. 10.)

APPENDIX B

St. Clair, Model Urban Housing Program

This scheme was judged the most outstanding proposal of the 1994 N.S.W. Model Urban Housing Program. It incorporated two major housing concepts involving:

- the use of semi-detached houses; and
- the development of housing clusters.

The design rationale behind the semi-detached models has been discussed previously in the Conclusion. It is also worth examining the siting and spatial organisation of the housing clusters as they too incorporate Modernist spatial concepts.

The housing clusters, shown in Figure B, were developed as a model for increasing housing density through the introduction of a third 'layer' of housing. The clusters consist of six dwellings sited around a square of common open space. The street frontage was designed primarily to accommodate car parking and garages, resulting in only two of the six dwellings having a clear street address. The rear dwellings were sited over 40 metres away from the street frontage, with access gained through the common open space. Similarly to the semi-detached models, the spatial organisation of the cluster was largely determined by solar access. The site plan showing the broader siting of these two housing concepts is shown in Figure C.

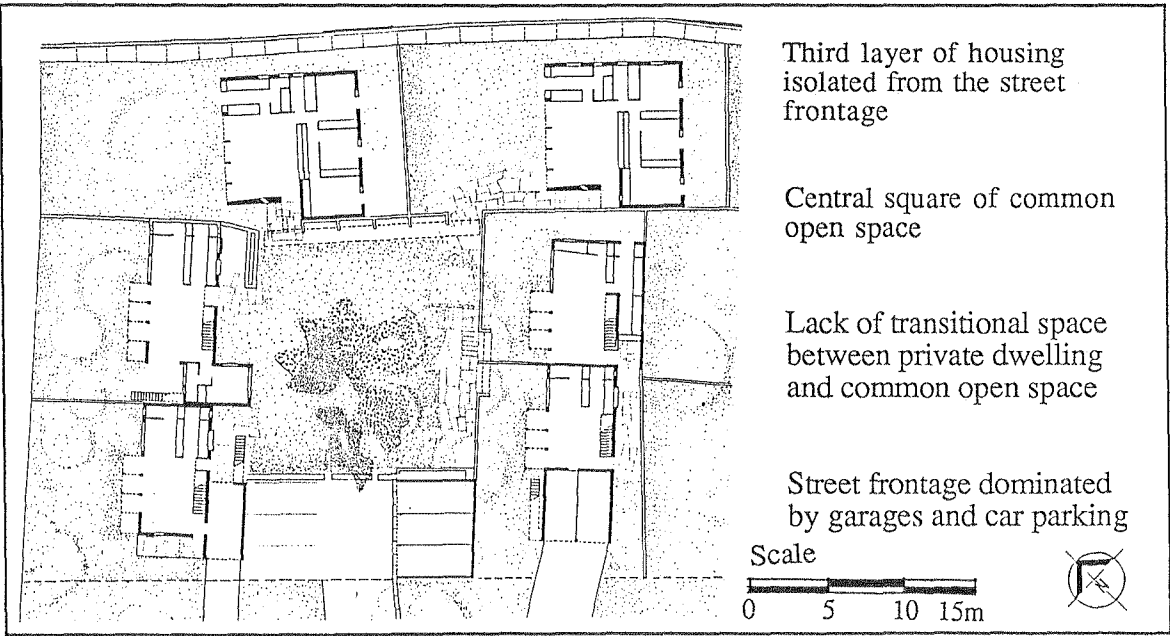


Figure B. Spatial organisation of a typical cluster, St. Clair
(Source: N.S.W. Model Urban Housing Program 1994)

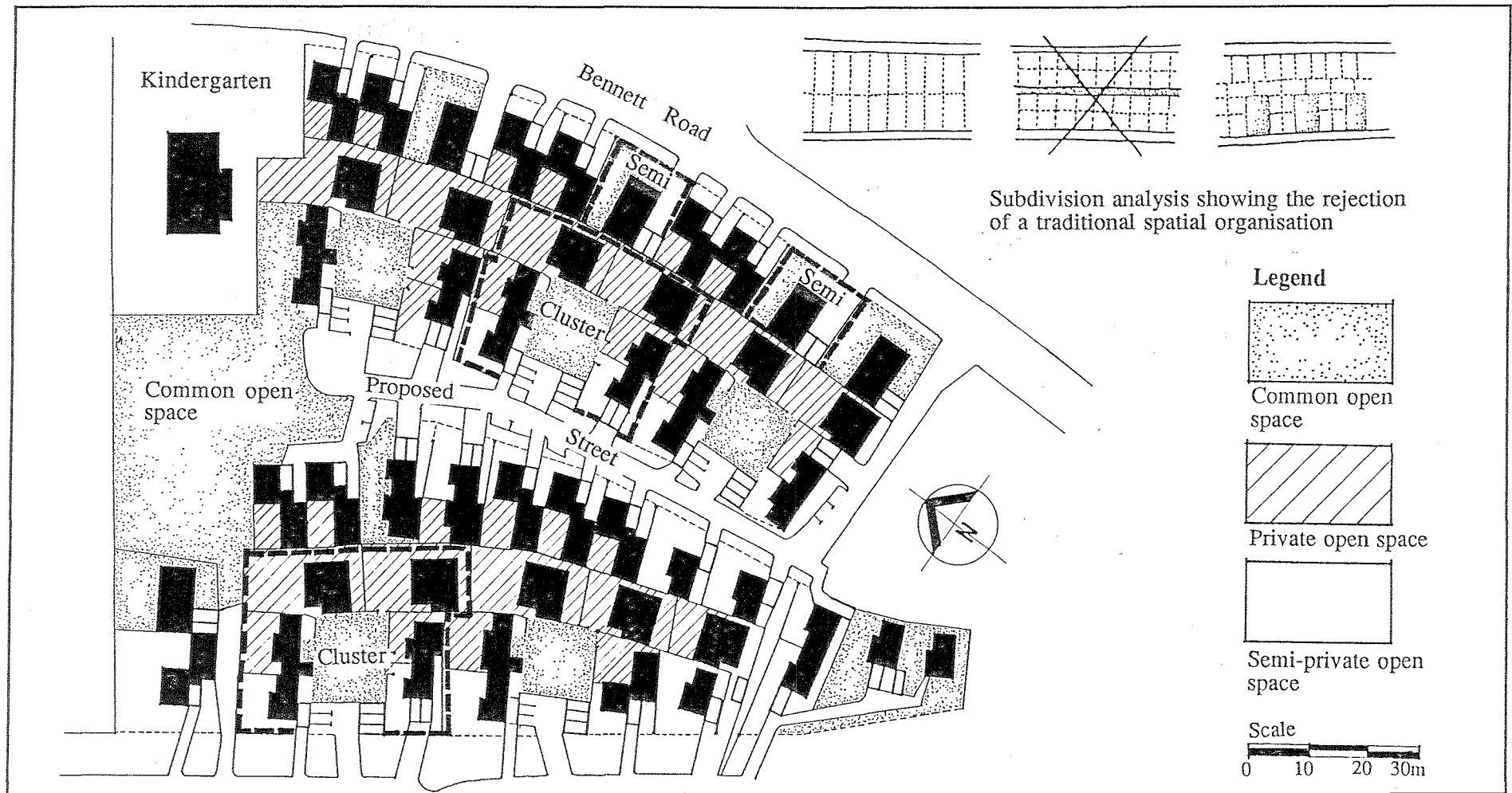


Figure C. Site plan for St. Clair
(Based on plan from Model Urban Housing Program 1994)

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