Urban Housing Forms
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Jingmin ZHOU

With Introduction by Ian Colquhoun
My heartfelt thanks to all the Architects who provided the material, and to all those people with whom I spoke during visits to the schemes.
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Reason for the Book and Acknowledgments

My childhood and youth were spent in Beijing at a time when the opportunities in China for creative housing design were non-existent. An education in architecture, including a number of research years in Japan and Britain, and latterly in Canada, have opened my eyes to a world of new ideas in housing design. I have been fortunate to travel and see much of this for myself, which has culminated in the production of this book and hopefully two more to follow in the future.

Many of the schemes in the book push out the margins of innovation in response to new housing agendas. Britain and the USA are traditionally more cautious in terms of design than countries in Europe and elsewhere, but a renaissance is now taking place with new design concepts and building forms. My hope is that this book will contribute to this change by bringing together in one publication a range of design ideas from around the world.

I am deeply grateful to Professor Hattori at Chiba University, Japan and Professor Ian Colquhoun of the former University of Lincolnshire and Humberside who introduced me to housing design and gave me initial encouragement to research for this book. Ian has kindly edited the book and written an Introduction. He has also provided information on schemes from the collection he has gathered for his own books. I doubt I could have written this book without this support.

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Jingmin Zhou
Canada
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Introduction: Urban Housing Design
Introduction

This book brings together many significant grouped housing schemes from around the world. Most are located in cities, are high density in form and illustrate a wide range of design solutions. They are all innovative and many push out the boundaries of experimentation. They share a common theme in being designed with some form of courtyard or green space. This introductory chapter provides an overview of urban housing and analyses the main design criteria for ensuring that it successfully meet the needs of its occupants.

Suburban living in Britain is a reflection of its history and it is still the predominate influence on most people with the means to choose the location and form of their home. In the USA suburbia is part of the American Dream: on a large scale the implications of this kind of density can be seen by the example of Los Angeles where the city spreads over an area half the size of Belgium. There is now a changing climate in both countries as areas of housing policy such as density and design are being openly discussed. In Britain this was stimulated by the publication in 1999 of the report of the Government’s Urban Task Force (chaired by Richard Rogers), Towards an Urban Renaissance. [1] In the USA the change of attitude focuses on the New Urbanism movement. The result is that now there is a much stronger commitment to urban living in more compact housing.

The schemes illustrated are all of exceptional quality. However, in looking at those from other countries, it is important to recognise that there are cultural differences to consider. It is all too easy for architects in one country to turn to design models in another without understanding essential social and cultural, and even climatic, differences. Privacy is a high priority for the British: “A truly comparable word for ‘privacy’ does not exist in French or Italian, yet in England it is one of the country’s informing principles”. [2] Furthermore, the European model of urban living is different to that of Britain. Historically, apartment living was most common in Europe, whereas in Britain, the pattern was traditionally the house in some form or other with individual accesses at ground floor level.

Occupancy in other countries is also different to that of the UK. In many European countries the emphasis is on customer choice through the rented sector. There is also the difference that people, not homes, are generally subsidised thereby removing the stigma of social housing. Schemes are more often mixed tenure and mixed income and there is more element of choice when people are looking for a home. This frequently results in a much lower turnover of housing occupancy than in Britain.

Overview

Many projects illustrated are strongly influenced by aims and ambitions that go beyond the housing itself - urban regeneration (embracing both new development and refurbishment), experimentation with building form and materials, creating new forms of social grouping, new types of tenure/occupant, etc. Some schemes are influenced by more than one of these.
Regeneration

London

London and the South East of England are subject to a huge expansion to accommodate unprecedented growth. Much of the new housing has been built in the former docklands covering a total of 8 1/2 square miles. The designs demonstrate a multitude of architectural styles frequently influenced by the developers. One of the most enlightened was Roy Sandhu who commissioned Ian Ritchie Architects to design a small urban scheme - Roy Square - on a derelict site in Limehouse (pp. 209-213). Similarly, in 1996 Ballymore Estates commissioned CZWG to design one of the most theatrical schemes in Docklands - Dundee Wharf, which is a significant landmark along the River Thames close to Canary Wharf (pp. 140-144).

Amsterdam

Urban regeneration has been a high priority in the Netherlands for over 20 years also and it is in the new housing developments associated with this that the Dutch have so much to show the rest of the world. The Eastern docklands of Amsterdam have in many places become a magnificent part of the city, heterogeneously designed, modern, and at the same time rooted in the past, matching the spirit and quality of Berlage’s Amsterdam Zuid. Plans for the area were approved by the City Council in 1990. The buildings had to be “pleasing and original” and the density high: specifically 100 dwellings per hectare (40/acre). Thirty percent of the dwellings were to be subsidised social housing. [3]

Designs for the new residential areas moved away from large-scale tight physical master plan to a phased approach to smaller scale developments that offer considerable diversity of dwelling types and form. This new approach is particularly reflected in the design of Borneo Sporenburg and the Whale (pp. 244-249).

Berlin

The Internationale Bauausstellung Berlin (IBA) was very significant in the 1980’s for rekindling the concept of rebuilding cities within a three-dimensional urban framework established by the nineteenth century pattern of streets, squares, internal courts, parks and public buildings. There was no grand overall plan, nor all-embracing solution. Each urban block, while contributing to the essential realm of the street, was considered to have its own unique spatial quality. Variety was considered essential and individual projects were rarely larger than 150 dwellings. To increase variety, a number of eminent German and international architects were involved in the design of individual schemes. This principle is clearly shown in the scheme on the Fraenkelufer by Hinrich and Inken Bailer (pp. 74-77). Herman Hertzberger’s housing on Lindenstrasse (pp. 153-157) was also part of an urban block. Local people were invited to join in the planning, and the result was an environment less dominated by architecture and one that left room for the individual.

Paris

During the last 25 years Paris has transformed its abandoned industrial sites with

Successful refurbishment of
1960’s high-density housing
Kings Cross, London

Entrepot West Housing
Amsterdam
Architects: Atelier PRO

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new housing and other uses. The vision, promoted by Jacques Chirac whilst Mayor of Paris, was concerned not only with new buildings but with a revaluation of public spaces - streets, boulevards, promenades, squares, waterfronts, parks and the complexities of Haussmann with its city blocks, internal courtyards and passages. The Plan Programme de l’Est was a most spectacular instrument to regenerate the whole of the east side of the city, of which the housing schemes in the Bercy Quartier (pp. 222-225) and Rue de Meaux were part (pp. 239-243). The process for designing development areas was to appoint an architect to prepare an overall urban design plan. This stipulated the general composition of the redevelopment - street alignment, massing and heights of buildings, materials, landscaping, etc. This architect would then within this framework coordinate the architects appointed by the individual developers.

The project at the Rue de Balard (pp. 131-134) is part of the regeneration of the site of the former Citroen factory in the south-west of Paris. The core of the project is the Parc de Citroen, which overlooks the River Seine. The axis of the Rue de Balard defines the eastern boundary of the regeneration area and it is flanked on either side by new housing, offices and a hospital.

Small-scale interventions such as the housing development on the Rue de Meaux (pp. 239-243) were just as significant. In their own way they could create a sense of place and be a beacon for the improvement of the whole neighbourhood.

Austria
Few cities can claim to be the source of such challenging designs in housing as Graz in Austria. It is quite remarkable that, within the last 20 years, a city of some 250,000 people has produced at least four architectural practices of confirmed international status and an astonishingly large number of good housing schemes. The Architects were able to experiment with new housing forms and materials to produce designs of exceptional quality because of public confidence in their work.

Japan
The projects from Japan are hugely imaginative. Japanese people have traditionally lived in high density housing in the cities and domestic crime is very low as neighbours respect one another and their property. Density is important in Japanese housing not just because of the shortage of land but extra properties subsidise overall development costs. High-rise super-blocks of 35 storeys or more are impressive and people enjoy the spacious and well fitted out flats and the views. Cars are parked in multi-storey garages or in double layer street spaces.

Orientation is the prime design criterion in Japan to gain maximum benefit from winter sunshine. This results in housing arranged in neat rows set in a landscaped environment. More recently medium rise schemes reflect western designs with housing grouped around more enclosed landscaped pedestrian courtyards as the Kosugi project, (pp. 163-167) and the Theatre of the Ocean (pp. 194-198). The Berlin IBA planning concept of a permeable grid of streets was adopted for the Makuhari “Patios” project at Tokyo Bay (pp. 204-208). It is a very successful and popular scheme with residents but somehow the European model lacks the atmosphere of
Early Graz housing
Eisbach Rein, Austria
Architects: Szyszkowitz and Kowalski

Housing with good orientation
Tama New Town
Japan

the traditional Japanese city.

Other schemes relate to a deep interest amongst Japanese architects for community architecture, ecological design and sustainable development (Yoga A Flats, pp. 135-139).

China

The pace and scale of change resulting from the urban explosion in China is immense. Everywhere new high-density housing and commercial development is being built. Design follows western architectural styles but a combination of architectural know-how and traditional ideals of “Asian Identity” can produce popular historic themes (Pudong New Area, Shanghai, pp. 189-193).

Many areas of traditional courtyard housing - the Hutong - have been lost in the march of progress. “Hutong” is the northern Chinese term for traditional urban neighbourhoods and it is Beijing’s historic form of housing. It is estimated that there are 10 million of this type of dwelling throughout China. Traditionally Beijing was laid out in a rigid pattern with main streets dividing the city into many urban quarters, which were subdivided by a multiple of narrow lanes. Between these lanes, small blocks of high-density courtyard housing developed. Over the years the courtyards of these old brick and timber housing had gradually become infilled with temporary dwellings as pressure on land increased. During the Cultural Revolution the Hutong houses were further sub-divided with whole families accommodated in single rooms. Lack of sunshine and ventilation, drainage and basic sanitation meant that they became increasingly unwholesome places in which to live. Pressure for development is now threatening this 700-year-old historic urban structure and much has been cleared to provide land for new development frequently in high-rise form. However pioneering schemes such as the Ju’er Hutong Courtyard Housing (pp. 122-125) has helped bring about a reconsideration of planning policies, and the restoration of these historic areas of Beijing. [4]

Design Density

Density and urban housing are inter-linked. Towards an Urban Renaissance, [5] called for liveable urban neighbourhoods designed to higher densities than allowed by planning rules and regulations in Britain - then some 20-30 dwellings per hectare (8-12/acre) (p. 59). The report advised that the most compact and vibrant European city was Barcelona, which has an average density of about 400 dwellings per hectare (162/acre). This compares with typical densities in London as follows: [6]

- Outer suburb - 30 dwellings per hectare (12/acre)
- Inner London housing association scheme - 70 dwellings per hectare (30/acre)
- Victorian Street in Islington - 100 dwellings per hectare (40/acre)
- Street in Kensington and Chelsea - 200 dwellings per hectare (80/acre)

The UK government policy on density is stated in Planning Policy Guidance Note No. 3, Housing (PPG3). Housing developments should be designed to at least 30 or
more dwellings per hectare (12/acre), while 40 (16) is preferred and 50 (20) for urban locations. Higher densities than this are to be encouraged in locations near to good public transport. In London and the South East of England it is clearly recognised that densities need to reflect the twin challenges of housing demand and falling land supply. Density does not affect the image that developers wish to put across in the design of their schemes. A number of schemes illustrated in this book are traditional in approach whilst achieving very acceptable densities (Charles II Place, pp. 109-112, Holyoake Court, pp. 97-99).

However there is a further reason for higher densities. Western Culture has an increasing emphasis on freedom of individual expression, which places new demands on housing. Traditional nuclear families are declining and new household patterns emerging. Couples have fewer children and many more marriages end in divorce, leaving partners on their own or as lone parents. Many young people prefer to live on their own or share accommodation with one or more people. Also people are living much longer lives. These new types of household expect choice and many are deciding to live in the new exclusive high-density developments in town and city centres. High density is clearly on the agenda and quality is paramount.

The essential features for successful high-density development are as follows: [7]

- Accessible location with good transport links to offset the lack of car parking.
- Location regarded as generally “sought after”. This can frequently offset desire for lower density housing.
- Generous internal space and storage.
- An adequate infrastructure of shops, schools and other amenities in the area.
- High standards of management and maintenance. Generally as housing density increases, costs in the form of rent and service charges go up too.
- Adequate facilities in the neighbourhood for children.
- Where there are no private gardens some personal outdoor space must be provided, either a well-screened and useable sized balcony (in Britain a conservatory with wide opening windows may be preferable) or a small private garden for a ground floor apartment.
- Comparatively low occupancy level and child densities. A 25% maximum is recommended. Successful schemes have a higher proportion of older residents without children.
- Good security arrangements.
- High standards of finish. The scheme must fit well into the existing urban scale and street pattern.
- High quality building materials that will stand the test of time.
- Good communal facilities, e.g., crèche, elderly people’s meeting room.
- External open space and landscaping are crucial to the success of high-density housing.

Two recent publications - by PRP Architects for the East Thames Housing Group Design [8] and Design for Homes/Popular Housing Research [9] - add to this. PRP
Architects, research of housing development in a number of European countries - France, The Netherlands, Sweden, Denmark - led them to conclude, “the success of high-density housing relates to social attitudes that prevail and the efforts made by landlords and the municipality to reinforce good neighbourly behaviour”. It is important for neighbours to be considerate of one another and to cooperate in looking after communal areas. This commitment to good behaviour and good maintenance go hand-in-hand with the provision of good communal facilities by the landlord. [10]

Privacy

In their report, Design for Homes/Popular Housing Research assessed the attitudes of people living in developments in Britain, both private and social, designed to different densities. The overview points to important issues concerning privacy in high-density housing. [11]

- The most important privacy issue is sound transfer between adjoining properties
- Not having sufficient space can present serious problems for occupants. Space is much more important in high-density housing where there is no direct contact with the outside. Rooms must be large enough for their purpose and there must be opportunity for separation of adult from child space. Adequate storage space is essential.
- Privacy in gardens should be ensured with head height walls, fencing and planting so people can relax in privacy.

Open Space

In his book, A Pattern Language, Christopher Alexander wrote “in order to nourish themselves, people need green open spaces to go to; when they are close by they use them, but if the greens are more than three minutes away the distance overwhelms the need”. [12] He defines the term “green” as being “a place large enough so that, at least in the middle of it, you feel you are in touch with nature and away from the hustle and bustle”. Both PRP Architects and Design for Homes/Popular Housing Research concluded from their research that some form of open space is vital to the success of high-density housing. Communal open space should give scope for adults to enjoy quiet relaxation and for children to play without causing annoyance to others. The classic “garden square” is preferable located at the front of the properties. This places it more into the public realm than the private, as it would be if located at the rear of the properties. A quiet road, used only for access, creates more distance from the communal open space. If the communal space is at the rear then it is important to
provide good screening between private gardens and the space. [13]

Good landscaping is important but this must be matched with good maintenance. Public spaces must be clearly defined and overlooked to provide natural surveillance. Play facilities for young children is important where the housing is to accommodate families but there should be provision for older children nearby.

Car parking

Car parking in high-density housing is a huge design problem. Many of the schemes illustrated have underground car parking. In Europe this is made secure with sophisticated entry systems and charges that are acceptable to residents. The best solutions in Britain are those where the planning authority has relaxed standards on condition that residents agree not to have cars (Murray Grove, pp. 217-221).

Community

It is important to create schemes that are not just housing but communities. A most common factor of success amongst the schemes illustrated is the link between privacy of residents supported by a spirit of people coming together. Wherever possible, future residents should participate in the design of the housing. Once occupied the residents should become involved in how the housing is run including its maintenance. This can be achieved through the establishment of residents associations and small management organisations to help regulate and maintain communal open space.
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