

SECOND EDITION



THE URBAN HOUSING HANDBOOK

ERIC FIRLEY AND VICTOR DEUPI

WILEY

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Eric Firley and Victor Deupi

Second Edition

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**To my stepmother, Jeannette Merino,
who loves buildings and architects.**

Victor Deupi

To my mother, Claude.

Eric Firley

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Introduction to the New Edition

This book is the second edition of a work that was written in 2007–2008, and first published as a hardcover in early 2009. In an effort to keep the traces of the first edition's rationale as apparent as possible, we decided to add a second introduction, rather than to modify the original one. The book's fundamental structure and concept have not been altered. Neither has the intent to fully merge urban and architectural perspectives. As a matter of fact, most changes pertain to the substitution of all contemporary case studies, now presented on two spreads rather than a single one. On top of this, the authors reconfigured some of the traditional housing chapters, and were hence able to feature two additional types, one from Rome and another one from Miami Beach. The English terrace house and the mews have been combined in one chapter, while Barcelona's Casa de Mig (please see Figures I.1–I.3) has reluctantly been omitted, due to its lack of resonance over the years. It is simply too difficult to find any new interpretations of it. Other than that, the original introduction still describes the project's background and goals in an accurate way.

15 Years Later

But the obvious question for any re-edition still persists: What has happened in the urban and architectural field since the writing of the original, almost 15 years ago, and does it make sense to discuss such trends without any differentiation with regard to place? The last point remains a challenging issue for most comparative work, in which architectural artifacts from around the world are selected, without in-depth understanding of the social and environmental circumstances that brought them into existence. By definition, the authors – both living and teaching in Miami, but with partly European and Latin American backgrounds – look at them through the lens of people who grew up in the developed Western world, with all unconscious preconceptions that this might entail. The probability of misinterpretation is real, and should not be hidden from the reader. One must hope that it does not annihilate the method's equally obvious virtues.

But there is another complication: Regarding change over time, do we refer to our own point of view on a specific object or to the nature of the object itself? Can one speak, on the scale of each of the 30 chapters, of the emergence of a true triangular relationship between the traditional type (at least a century old), the “contemporary” choice from 15 years ago, and the new selection as featured in this update? Or would this be coincidental or just wishful thinking? These reflections, as idle as they might at first glance appear, eventually reveal themselves to be crucial because they contribute to the definition of what the slippery notion of “type” actually signifies.

This second edition can hence be understood as a snapshot of typological development and adaptation, enhanced through an additional time layer, but does so in a constantly changing way according to each specific case-study. It is hence clear that the authors implemented a decidedly qualitative, not quantitative, approach. The research method as applied to this book is not meant to provide any metric evidence of how recent developments have fomented typological change. But it offers an opportunity for the authors and their audience to engage with current themes with a focus on the remanence of spatial configuration, rather than stylistic expression – a perspective that might otherwise be overlooked.

A more specific typological topic that grew out of our work for the new edition, and that deserves further analysis, pertains to the relationship between type and use. In contrast to the first edition, the authors explicitly gave preference to mixed-use examples for each category, acknowledging the increased appreciation of such buildings for the creation or preservation of a pluralist urban environment. The truth, however, is that this priority has been more difficult to implement than expected, a fact that in turn raised many questions regarding the phenomenon's origin. Does the sector actually produce much less mixed-use buildings than one could expect, or do they just not get published, or – and this would be the most challenging point – do such buildings create variants that the authors were not able to attribute to any of the 30 traditional types?

Fighting for Relevance on a Precipice of Buzzwords

But to what extent are these timely considerations? The truth is that, if we reach back to the aforementioned question of trends, climate change undoubtedly has emerged as the gorilla in the room – the cause that trumps all others. The realization that we will have to socially and economically deal with an increasing



Figure I.1 Urban plan, section and image of the Casa de Mig type

number of environmental disasters, and that the built environment plays a decisive role in them, constitutes a frightening scenario for a profession that, wrongly or not, is often characterized as one of otherworldly aesthetes. And it is true that during the authors' own studies in the 1980s and 1990s, typological questions were often reserved for the ideological battles fought around postmodernism. One spoke about type because this, by definition, referred back to history. Resilience, as now desperately requested by most stakeholders, played a very minor role in such a paradigm, and was a concern for only a handful of specialists. From today's more pressured perspective, this elitist nonchalance appears almost as an understandable explanation for the architectural profession's limited influence and credibility in contemporary society.

So, why insist on type as the book's structuring element, if everything that patrons and clients want to hear about is resilience, sustainability, and economic efficiency? The argument that we would like to make is twofold: one is rather technical, insisting that the growing densification of urban environments, a widely acknowledged component of sustainable as well as affordable development, needs typomorphological



Figure I.2



Figure I.3

aptitude to be successful. Selecting and adjusting a type to increasingly restrained spatial conditions is not an obvious undertaking, and the loss of this skill can quickly lead to the inappropriate application of the high-rise alternative to starting conditions that would have benefited from a more differentiated approach. The tower, with all the promises that it makes, still struggles to create a shared urban continuum, and rarely delivers superior performance in regard to overall density and social mixture. This can certainly be considered a major sustainability concern. Moreover, these high-rise buildings are often seen as an increasingly irritating symbol of one-size-fits-all globalization. That towers often appear as bland generic boxes, then, is the least relevant objection.

The second argument for a rigorous typological training refers both to the special position of the architect in the built environment on the one hand, and the communicational issues that many Western societies currently experience, on the other. While climate change might be the dominant environmental problem, it is not the only problem we have to address: the political climate in many nations suffers increasingly from the distrust between citizens, institutions, and politicians, a thesis that might at times be overstated, but that nevertheless has a substantial presence in various media, and that manifests itself through events like the Brexit vote and the attack on the US Capitol. This, unlike climate change, is a genuinely new phenomenon of the last 15 years, one that seems somehow correlated to globalization and the still ongoing digital revolution.

But what has architecture to do with it, or even typology? Not that much at first glance. But if we truly believe that some of these political issues are of communicational, or so to speak soft origin, and not only a function of “hard factors” like increasing poverty, social segregation, and environmental distress, these disciplines can make a difference, because they play a leading role in the translation of societal and communicational issues into built form. If we do believe that mistrust and intolerance grow out of our everyday exchanges, through the way we perceive ourselves, authenticate our acts, and validate our relationship to others, there is no reason to believe that the specifics of the physical world, that even in a digital age make all of this possible, do not count. But of all professions of the built environment, only the architectural profession addresses these phenomenological and semiological considerations as a core concern.

Architects and urban designers have less control over the framework of their projects than some other participants in the development business, but they have the synergetic mission to combine numerous and partly contradicting forces to create a culturally meaningful outcome. Seen from this angle, typology unfolds as a sub-discipline that, despite its various cultural interdependencies, defines maybe more than others, including structures and materials, what one could call the autonomy of architecture: a system that is unique to the profession. If we lose it, we might lose a lot of what architecture can bring to society: an intrinsic connection to the past that is not ideological, an appreciation of long-term processes, a rigor of analysis that combines hard and soft sciences, and – most importantly – an intentional focus on the relationship between public, private, and communal realms.

Many of these qualities arguably lead back to the starting question of resilience, in the form of a complex but credible method. The aforementioned genealogical component of typology – as an analysis of physical mutation over a long period of time, not unlike the one usually applied to flora and fauna – also carries in the current context a symbolic meaning: rather than diametrically opposing nature and artifice, it conveys a more nuanced vision of the human-made world that opens up interpretations of both the built environment and society, and surpasses the vision of (apparently failed) dominance most of us have been impregnated by.

Covid-19, and the Question of What Is Essential

The authors, who began writing this text in January 2022, hope that the pandemic will almost be forgotten at the time the first readers hold this book in their hands. But long-term consequences there will be, quite a few of them pertaining to the built environment. Some trends that have been slowly growing over the last decades will be accelerated, and others possibly reversed. An example that illustrates both, and is directly connected to the book’s focus, relates to the attractiveness of dense urban centers. Some see them suffering, due to the exodus of people, retail, and companies – as people find that working remotely allows them to work where they choose. Others see them thriving as rejuvenated local communities, through the opportunity to transform office into residential space. Time will give us the answer, but then again, the answer should not grow out of an attitude of defeatist economical determinism. The future is the one that

we create, and the architectural profession carries a certain responsibility to defend the values of the built environment that eventually cannot mean anything other than physical and social exchange, values, and practices that during the pandemic were downgraded to the status of “nonessential.” Distancing people from one another, in whatever form this might happen, brings us closer to dystopian science-fiction scenarios, which do not leave a lot of space for calculated optimism. Assuming that physical contact can become optional, and therefore rationalized, opens a Pandora’s box of human absurdity.

Therefore, a positive side effect of the pandemic might be that exactly these types of issues, the social ones, and particularly the one of social equity, have through the pandemic been widely revisited, and gained importance on the political stage. Having suffered for two years from an uncontrollable exterior phenomenon has hinted to the possibility that the blind dictates of economic efficiency and broad, sweeping policy decisions that seem to have ruled political decision-making over the last decades, are, in the bigger picture, a rather human-made phenomenon that should be (re)translated into a question of debate and choice.

Decolonizing Typology

Both authors of this book are full-time academics, and can therefore not ignore a discussion that shakes the foundations of educational institutions arguably more than those of other entities. And indeed, revisiting the history of the traditional types featured in this book offers many opportunities to reflect on and question the appropriateness of the narrative behind many examples, including but not limited to those that are literally the result of the colonization of a country or territory by a Western power, like the Chinese Shophouse and the Longtangs from Shanghai.

In this complex discussion, two main tracks can be identified: an apologetic one that concedes the potential humiliation of civilizations and their descendants as a result of misinterpretation and trivialization, and a more widely defined epistemological one that scrutinizes the environmental appropriateness of architectural exports from one climatic region to another. Due to its obvious link to the climate change discussion, this last exercise is a particularly useful one, but also challenging and humbling. It requires us to reevaluate the actual performance of some beloved building types that we might have taken for granted. History might be written by the winners, but the writing never stops.



Introduction to the First Edition

The content of this book is wide ranging and the topics that we touch upon are numerous. We are not attempting a history of architecture, not even the history of 19th-century housing in 330 pages, nor trying to explain every architectural and historical detail of the 30 featured housing types, each of which are worth several PhD theses.

In over two years of full-time work, our ambitions have become simultaneously more humble and more focused. We are fascinated by the complexity of urban structures, and all our endeavours aspire to communicate this passion. The initial idea of the book was not at all historical. We were looking for the best way to analyse and represent the relationship between architecture and the urban fabric through types: graphically and analytically. Only later did we realise that this would probably be best done through a selection of 19th- and early 20th-century housing schemes. The project was propelled by the conviction that the presented typologies were worth the effort of a comprehensive contemporary analysis – intelligent enough to stimulate both us and others. Their value as repetitive elements of a still existing urban fabric elevates them to more than just historic remnants of a previous era or the means for critiquing and justifying something else. We strongly believe that improvement and innovation are based on the understanding (and not imitation) of the historic context, and we also believe that this context has not changed as drastically as sometimes claimed; you do not have to be a revisionist to realise that in terms of urban environment the postwar decades have not necessarily produced more appropriate models than the older schemes included. The comparative analysis of traditional with contemporary projects might be understood as an introduction to this debate.

This book with its analytical and graphic content, encompassing architectural drawings as well as photographs, aerial views and archive material, is inevitably addressed to a rather specialised public. We do, however, hope that the topic and its presentation will be of interest not only to an audience of academics, architects and urban designers, and even some private aficionados, but will engage a wide range of other professions in the building industry, whether they be developers, planners or house builders. The importance of multidisciplinary collaboration is not only one of our departing wishes, but indeed an outcome of our research.

OPPOSITE AND BELOW:

The three major elements that define our built environment: the street, the courtyard and the dwelling.



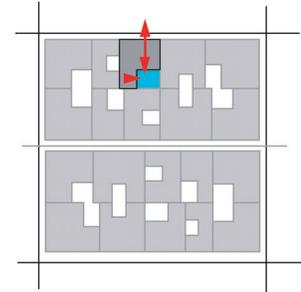
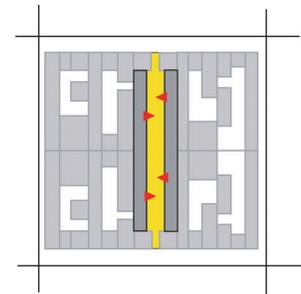
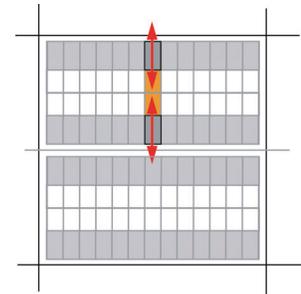
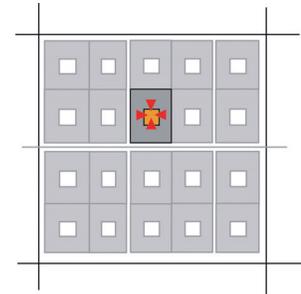
Organisation and Treatment of the Book

This book was conceived as a predominantly graphic reference tool, providing aerial views, archive material, plans and sections of featured housing types. Largely self-explanatory in its organisation, it profiles 30 discrete case studies of traditional housing types alongside which are paired contemporary examples. No further instruction should be necessary to find your way around the book. Though we tried to cross-reference the traditional chapters and the contemporary studies wherever possible, each text was written to stand alone. We have purposely not provided a particular argument or thesis, allowing readers to draw their own conclusions. Nevertheless, given the scope of the book, it might be useful to highlight some points that have shaped our treatment of the subject and the contents.

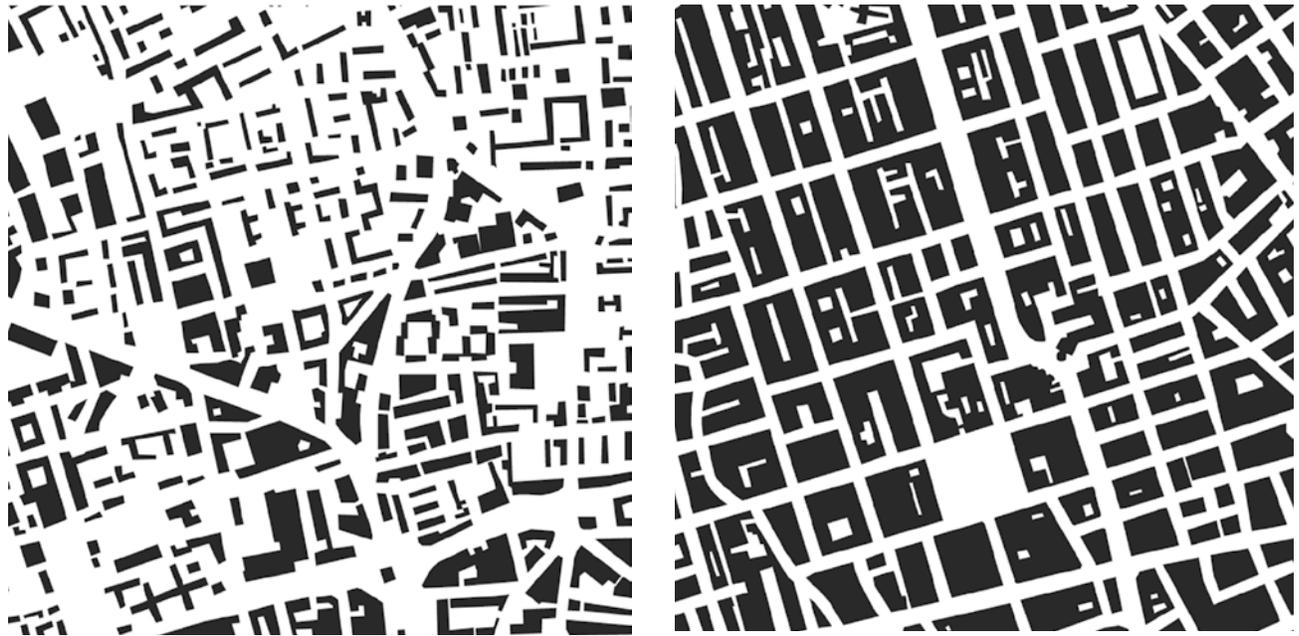
THE HOUSE, THE STREET, THE BLOCK AND THE CITY

The subject of urban housing can be approached from a lot of different angles. There is a plethora of literature on its planning, social, economic and architectural treatment. In our case, the decision to make it the main subject of this book is linked to its function as the most repetitive element of the urban fabric. While commercial or industrial buildings due to their very specific use and size tend to be more exceptional structures, private housing and apartment buildings are often built alike, not only in terms of style – a topic that this book does not deal with – but also in terms of spatial programme and configuration. This feature is helpful for any morphological analysis and enables poignant comparisons in a field that is, by virtue of its outstanding complexity, difficult to grasp. In contrast to a purely architectural or purely urban analysis, our focus is clearly greater than the dimensions of the single plot and its direct surroundings, although it also tries to avoid as much as possible the larger scale of the city-wide pattern. As practising designers we felt that the control of this intermediate or medium scale – the scale of the urban block – was an especially difficult and crucial topic, one that is positioned between the disciplines of both architecture and urbanism.

Our selection of only 30 examples is obviously not comprehensive. It can be only an abstraction or international snapshot of housing types per se. It does, however, cover a wide field in terms of spatial reference, especially due to the concentration on dense attached structures, excluding the single-family villa type, and the focus on 'street-related' perimeter block developments. This limitation contrasts with the housing slabs of the Modern Movement which – unlike older structures – do not necessarily depend on the street as major point of reference. The limited range should, however, not be misinterpreted as an ideological statement, rather it is a result of analytical coherence. For didactic reasons it makes more sense to compare types that – despite their highly dispersed geographical locations – surprisingly share many similarities in terms of their spatial programme, building processes and type of urban approach, than to include schemes that, justifiable or not, are based on a very different spatial concept – an inversion in the relation between street space and built form (see figure ground comparison (opposite)). As already stated above, the inclusion of contemporary projects after each traditional housing type study, indirectly, but inevitably, touches on this point and may provide a fruitful debate concerning the spatial changes that have occurred since the late 1920s, including reflections on the growing fusion of urban design and architecture as disciplines. These changes happened gradually over time and can already be perceived in some of the early 20th-century projects presented in this book. It was even harder to draw a line in the opposite direction going back in history, and especially to make the decision whether or not to include so-called vernacular types. The parameters remain to a certain extent artificial, and inevitably deliberate. To avoid diluting our overall critical process, through the very weight of content, we opted to investigate a relatively short historical period that ranges from the end of the 18th century to the beginning of the First World War. It concurs with a decisive period after the Industrial Revolution in which cities worldwide took on the distinct character they have today, catering for rapidly increasing populations and housing demand, a situation that is not so different from the one that is being experienced by many cities today.



Four typological groups have been defined. Each of the following diagrams represents one of them: (from the top) courtyard houses, row houses, compounds and apartment buildings.



THE NOTION OF TYPE AND THE FOUR MAJOR GROUPS

A classification of building types is not a fixed attribute and does not only rely on the architectural nature of each project, but strongly depends on the envisaged use of the result, for instance, this book. Our choice of each individual example was informed by our desire to create a powerful design tool rather than the unavoidable ensuing theoretical discussion of type per se. Our project started by compiling and examining well-known housing types, which were compared in view of their performance and, if possible, repetitive position within the urban block. It was important, as previously mentioned, that they were medium scale and that the overall structure also mediated between the individual housing unit and the wider city pattern. The grouping of the content into four main classifications – two single-family (courtyard houses /row houses) and two multi family (apartment buildings and compounds) housing types – was a way of bringing into focus the three major elements of an urban block: the street or square as public sphere, the building itself and its dwellings, and finally the interior of the block – the private or communal courtyard space (see images of the three elements pp 8–9 and diagrams opposite). In the context of medium-scale development, the block interior emerges as the determining element, and its nature gradually evolves from being intimate, introverted and private, as is the case in a courtyard house, to being more functional and communal, as is the case for a compound and its central shared spaces.

The diagram at the beginning of each chapter is intended to show the distinct features of each example and to locate it within one of these four main housing groups. It also helps to extract from any specific example its fundamental spatial configuration, and therefore to make the differentiation between spatial type and architectural style. The included classifications should be regarded as no more than theoretical devices that aid orientation. They are not exclusive. The age of many of the featured buildings means that they have undergone various alterations since they were first built. Only a few examples can be regarded as entirely unambiguous. A quick review of our case studies will reveal that the differentiation, for example, of a row house compared with a courtyard house might not be as clear cut as you might think (see, for example, the *machiya* house, *Kyo-machiya*, p 54 and the Chinese Shophouse, p 94).

A second limitation that we encountered compiling the book is more conceptual, and is due to organisation by case study: the graphic representation of the relationship between the single building and the wider urban structure inevitably leads to the question of the nature of the link between these two elements. One might expect a causal connection, and it could be inferred that a certain housing type

Figure-ground drawings of two areas in central London: in the 19th-century example (right), the street space is defined by the built mass. In the 20th-century example (left), these two elements are not directly linked.



produces its own urban grain. At a glance, the 30 urban plans in this book certainly support the existence of a link, but they also make clear that the claim for any direct causal relationship would be an oversimplification. The continuous repetition of a single type certainly has consequences for the shape and character of the streetscape, but it does not automatically predicate a specific result. Conversely, the same is also true of the influence of the urban plan on housing: a specific street network does not predicate the use of a single housing type, even though the New York City chapter of this book tries to explain how the emergence of the turn of the century's building types was linked to the grid network of the Commissioners' Plan (see *Early Residential Towers*, p 304). We highlight case studies, but our research cannot provide any hard and fast rules.

A third and last point that we would like to raise concerns the architectural part of our study. What is the actual value of the buildings themselves, apart from their repetitive occurrence in the urban context? Can they still serve as a model for contemporary projects, or are they just useful historical information? These are difficult questions and our readers should be able to draw their own conclusions. Probably none of the presented types satisfactorily responds to our contemporary building regulations and standards. But then again, many of them still have an important market value, and often surpass new buildings in popularity among the wider public – not only in terms of their external appearance. The architectural plans and sections in this book have been redrawn not only for their existing architectural value but also for the potential insights they throw up. As a matter of fact this value is based not just on a quick conceptual impression, but is often a question of detail and measure. A dwelling that might be dark with a courtyard that is 10 metres in width, could be attractive with 15 metres in width. To make a judgement, we need to see the plans.

THE UNDERSTANDING OF THE BUILDING PROCESS VERSUS A SOLELY AESTHETIC FOCUS

One of the main reasons for including descriptive texts alongside drawings and photographs is to elucidate the development background of each type and to make clear that its relevance is hardly restricted to formal considerations. Here lies an important link between the separate professions of the building industry, often a source of misunderstanding. We are not only referring to the fact that many architects tend to judge the quality of a project on a purely aesthetic basis, or that a developer might sometimes lack understanding of a certain spatial coherence that the designer is trying to assure. Rather, a more profound and conceptual outcome of our research is the crucial importance of the development structure for the formal result of a project, especially in terms of separation between urban design and architecture. We realised that this central topic lacks definition in the presentation of most contemporary design books, and that it is a basic

A project of the early 21st century: something has changed . . . but what exactly?

requirement for the understanding of 19th-century architecture versus 20th-century modernity. It cannot, for example, be considered to be a mere detail if a masterplan has been conceived by the same architect who built the individual houses, or if the two processes have been completely separated. It also makes a difference whether or not the site is owned by the same entity that commissions the construction of the buildings. Another topic concerns the building regulations, and in many cases a typological transformation process will remain incomprehensible without a minimal knowledge of the changes to building regulations over a certain period of time. Due to the limited remit of the book we are not able to give detailed answers to these questions, but hope to guide the reader to appropriate research resources.

URBAN HOUSING AND DENSITY

Density has become a major topic in urban planning. In contrast to purely formal considerations, it adds a quantitative element to the discussion and often determines how appropriate an urban form might be judged for a specific part of the city. For the traditional projects therefore we added four common figures to our analysis: the plot coverage that quantifies the relation between built and unbuilt spaces, the plot ratio which puts in relation the plot size to the total built floor space (including upper storeys), and two per hectare indications: dwellings per hectare and inhabitants per hectare. For the last two figures we estimated a district-wide density based on the urban layout as seen on the urban cutout and the architectural plans illustrated at the end of each chapter. These figures therefore include an allocation of street space as much as of (potentially existing) spaces in the block interior that might not be part of the actual building plot. The Eixample project from Barcelona is a good example where a calculation based solely on the plot coverage would lead to a high-density figure that does not correspond to the actual urban grain and the structure of Cerdà's urban blocks (see *Casa de Rentà*, p 294). Starting with the lowest density, the inhabitants per hectare figure also determines the order of the chapters in each of the four typological groups. It is important to keep in mind that the figures have been calculated in the same spirit as the rest of the book: as a tool for further analysis and innovation, and not as part of a historic or social essay. The inhabitants per hectare figure therefore alludes to a residential capacity that is based on our Western European standards, with one person per larger room, and is not linked to the actual density of the houses as they stand today.

THE CONTEMPORARY ELEMENT AND ITS POSITION WITHIN THE PROJECT

A crucial component of this work is the comparison between traditional types and contemporary projects. It is intended more as a possible juxtaposition than as a direct comparison in view of a linear typological development. Our aim was not to suggest how much of the spatial character of the 19th-century types has been preserved today; we were more interested in a conceptual approach and tried to establish a tension between two projects that share similarities on at least one, but not always the same specific point. The jump of more than 100 years between the traditional and the contemporary projects is an intellectual challenge and questions many tenets of both respective groups. One of the obvious questions is linked to the topic of this book: the notion of type. Can the contemporary schemes included be considered types, or is this something that can only be determined with a certain historic distance, as is by definition the case of the traditional ones? Do architects today still think in types, or is the current aim to produce a prototype that will keep its individualistic and singular qualities? If this is the case, is it linked to the structure of the construction industry or to the mindset of our society? As a matter of fact, the sheer existence of the contemporary examples helps to raise questions concerning the traditional types that we would not dare to raise directly, due to the complexity of the topic. We never aimed to present a finished product or to come to a fixed conclusion. Our sole aim is to offer a tool that will help readers to develop their own ideas.



Siheyuan

LOCATION: NANLUOGUXIANG DISTRICT, BEIJING

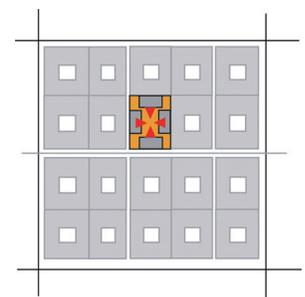
DATE: 600 BC–1940 (CONTINUOUS RECONSTRUCTION AND ADAPTATION / MOST BUILDINGS DATING FROM THE 19TH CENTURY)

In terms of plot ratio, the *siheyuan*s represent the lowest-density housing in this book. Not only is it made up of low-level buildings, but up to half of the plot is given over to a central garden. This generous green feature stands in stark contrast to the very urban character that the courtyard houses combine to create within the greater city context, forming a network of narrow lanes, known as *hutongs*.

HISTORY AND DEVELOPMENT PROCESS

Although the site of important cities and regional capitals for over 2,000 years, the birth of ‘modern’ Beijing is usually dated to the 1270s when the Mongol leader Kublai Khan, grandson of Genghis Khan, declared it capital of the Yuan Dynasty. He ordered the destruction of the former Jin capital, Zhongdu, and the new metropolis, Khanbaliq or Dadu (‘Great Capital’ in Chinese), was built afresh according to an ancient blueprint. It was not the first time that this had happened in Chinese history, and the chosen design bore many similarities with older cities like Chang’an or Luoyang. Likewise the model

for the Japanese cities Nara and Kyoto, their construction followed Confucian principles developed in the *Records of Trade (Kaogong Ji)* around 500 BC (Zhou Dynasty). These documents specified the major rules that had to be followed to build a new city, including: the perimeter length of nine *li* (the equivalent of 4.5 kilometres); a strict axuality around a central spine; a clear spatial hierarchy with the palace as dominant non-accessible structure; nine major arteries; and the continuous enclosure of the whole city. These stipulations were strictly adhered to for the construction of Khanbaliq, over 1,600 years after the *Records’* first publication. However, in



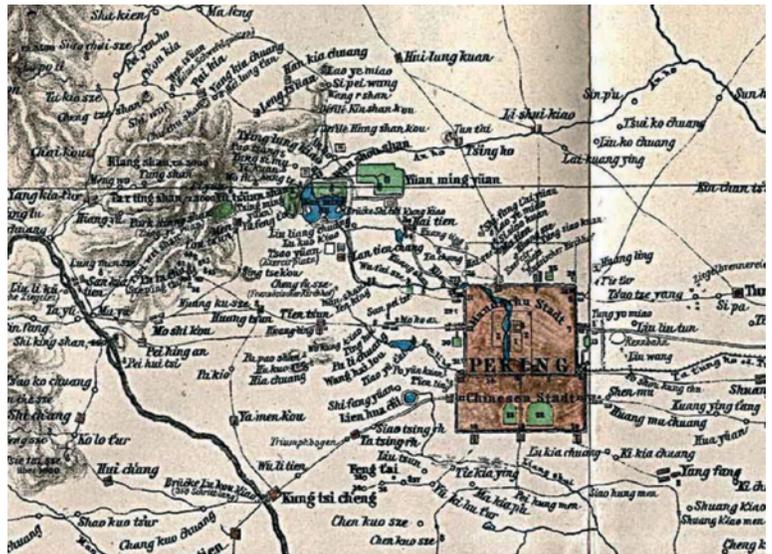
typological group:
courtyard houses
plot coverage: 37.5%
plot ratio: 0.38
dwellings/ha: 9
habitable rooms/ha: 131

contrast to the Tang capital Chang'an, the fact that the enclosures for each subdistrict (*fangs*) were abandoned led to the greater continuity of urban space.

The Yuan capital no longer exists, but the Ming and Qing city – the physical ancestor of contemporary Beijing ('Capital of the North') – was built on its southern ruins, essentially following the same urban rules. The southern city, slightly less strict in its composition of the *hutongs*, was added in the mid-16th century, further extending the central axis and emphasising the city's orientation to the south. The spatial comparison of Chang'an, Dadu and Beijing not only reveals the obvious continuity of the same spatial rules applied over a long period of time, it also underlines the Yin and Yang principles of contrary elements (although complementary rather than opposing) through the formal juxtaposition of the organically-shaped central lake, in contrast to the rigid and orthogonal grid structure. Consistent with the rest of the city, the artificial lake and its shape are not accidental results of the city's topography, but rather an expression of a holistic, perfectly mastered design.

URBAN CONFIGURATION

Apart from the hierarchy of the urban space, an important consideration for the construction of the city was the southern orientation of the individual houses. This explains the east-west layout of the



hutongs that perpendicularly connected the major north-south roads every 70 metres. This leaves enough space in the depth of the blocks for either a single property with several courtyards and a service entrance on the northern edge, or two smaller consecutive houses, the one with the north-facing entrance being less prestigious than the south-facing one. At around 600 metres, the length of these rectangular blocks is far more important than their width. Smaller lanes sometimes passed in a north-south direction

Map from 1875 showing the monumental and strictly geometrical layout of the northern and southern city in relation to its wider surroundings.



FAR LEFT: Entrance gate of a middle-class siheyuan house.



LEFT: View through the entrance door towards the interior of the house. The privacy of the courtyard is protected by a screen.



between the blind side walls of two residences, improving the north–south connections outside the few major arteries. Traditionally, the *hutongs* were monofunctional and larger shops could only be found on major roads.

Historic plans of the Ming and Qing Dynasties show a strong adherence to these urban principles, becoming more pronounced nearer the Forbidden City, the undisputed centre of power. Over time, and especially since the Communist Revolution, this layout has been altered, on an urban as much as an architectural scale. The *hutong* network has often lost its strictly orthogonal character, and a multitude of secondary and tertiary connections have transformed the initial grid into a sometimes confusing, almost maze-like layout of enormous

dimensions. The urban plans show it was the same for the houses themselves. Only after close examination can you hazard a guess where a *siheyuan* remains intact. This is due to the forced allocation of up to 10 families to a single house that resulted not only in the inappropriate subdivision of the property, but often also in the development of the courtyard space itself.

ARCHITECTURE

One of the most important features of the *siheyuans* is their modular character. This enables the provision of hierarchically appropriate accommodation for almost all social classes, based on an identical spatial configuration: an enclosed courtyard with several peripheral buildings. While

Looking from the Drum Tower over the roofs of the surrounding *siheyuan* houses.



FAR LEFT: Renovated courtyard houses in a *hutong*.

LEFT: One of the main roads inside the second ring road. They are far wider than the *hutongs* and accommodate commercial uses.

middle-class houses (see line drawings pp 20–1) had only one courtyard, the palaces of wealthy merchants or high officials had numerous consecutive courtyards, several of them being for service use only and therefore positioned off the central building axis. The main entrance to the house was also the only major exterior opening, positioned off-centre in order to prevent the access of spirits who are not supposed to pass through a chicane and a protecting screen.

More than in any other case study in this book, it is clear that in Beijing urbanism and architecture evolved out of the same principles. The houses can indeed be seen as a scaled-down version of the city; hierarchy, axuality, symmetry, enclosure and duality (sky against courtyard), are all traits that have already been mentioned in relation to the urban context. In larger *siheyuans*, each courtyard had a predetermined function, the principal one was the master courtyard, with a pavilion that was oriented towards the south. These spatial principles, as inefficient and over-generous as they may appear from a contemporary point of view were, however, indirectly economical too, as the underlying feng shui principles were meant to optimise the energy potential of the house in terms of its location and design. Unlike the Western tradition, the spatial and spiritual qualities of the dwelling were connected to the well-being of its inhabitants, an idea that Occidental countries only know in terms of purely hygienic and medical considerations, disconnected from the actual design issue.

Another interesting detail of the *siheyuans* is the separation of the building parts within their enclosure, leaving the corners of the square plots empty: the transition between the son's pavilion to the master's or grandparents' pavilion happens therefore under the open sky, a surprising feature considering the harsh Beijing winters. Only in larger houses are the different parts of the property sometimes linked through verandas. Apart from the obvious drawback that there is no shelter from the elements, this separation appears surprisingly contemporary when seen in the context of the modern Western family, as most people today reject the idea of living under one roof with their extended family. The Chinese courtyard houses can therefore be seen as a large 'house share' where several members of a community 'live together separately'.

SUMMARY

Many of the typologies in this book are the result of a gradual process of rationalisation, their initial architectural origins not necessarily easily

recognisable. The *siheyuans* in Beijing, on the contrary, represent a northern-Chinese building tradition over 2,000 years old. Unfortunately, this impressive quality stands in stark, almost hopeless, contrast to the current state of the buildings. Conscious political wrongdoing and the lack of conceptual adaptation to contemporary needs have led not only to the neglect of the structures themselves, but have also produced a situation where the typology of the one-storey courtyard house literally stands in direct competition with new residential tower blocks. The difference in density and urban landscape could hardly be more

BELOW: Main courtyard of a renovated upper-class *siheyuan*.

BOTTOM: Entrance courtyard of the same house.





striking, and the *siheyuans* and *hutongs* can obviously only survive with the help of the state. The situation is, however, difficult because the ownership of the houses is usually unclear, and their renovation would, due to the current overcrowding, result in the eviction of three-quarters of the residents. In addition, most average houses are not only in a terrible state, but their architectural value is limited to the spatial type, rather than the original building mass (that is mostly decayed) or to the original decorations that have often been removed. Many of the houses are actually not that old, often dating from the turn of the 20th century and they have gradually been transformed or modified. So the ongoing discussion is not limited to the

definition of listed buildings that have to be restored and maintained, as would be the case in Western countries, but concerns what to build in the protected areas which have been or will be cleared of derelict houses. Questions need to be addressed regarding the height of new buildings, the size of new courtyards, the number of inhabitants and the provision of pavements and car access. These issues emphasise the importance of typological research to maintain an urban identity. As the mediocre and arbitrary reality of the new tower blocks now shows, the future of Beijing as a beautiful city seems uncertain without a clear set of solutions for the retention and adaptive reuse of the city centre.



urban plan 1:2,500



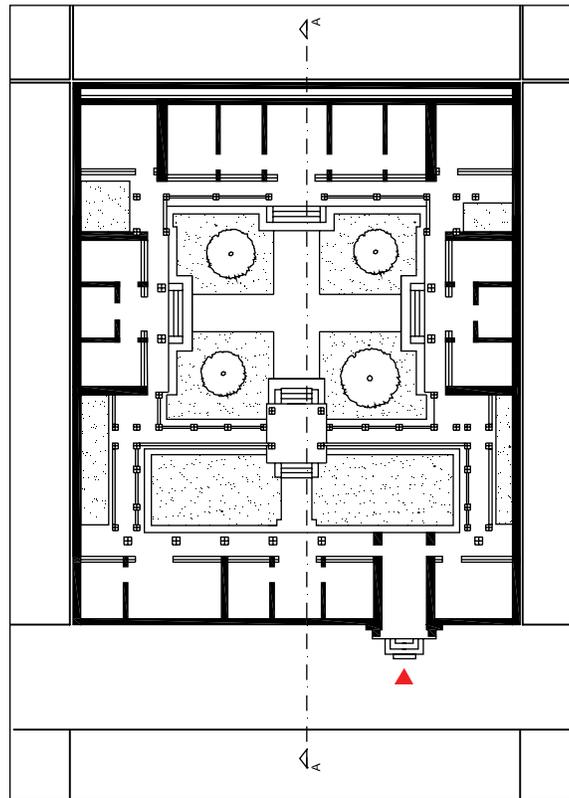
section A-A



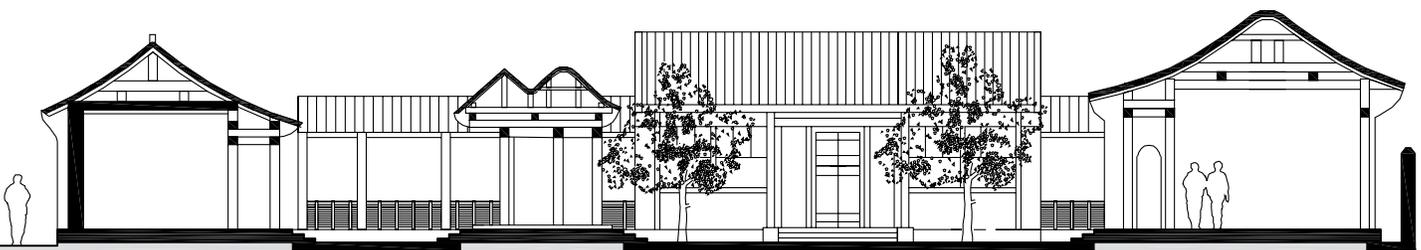
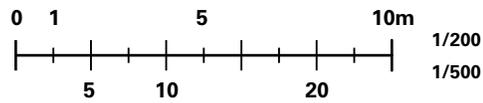
section B-B

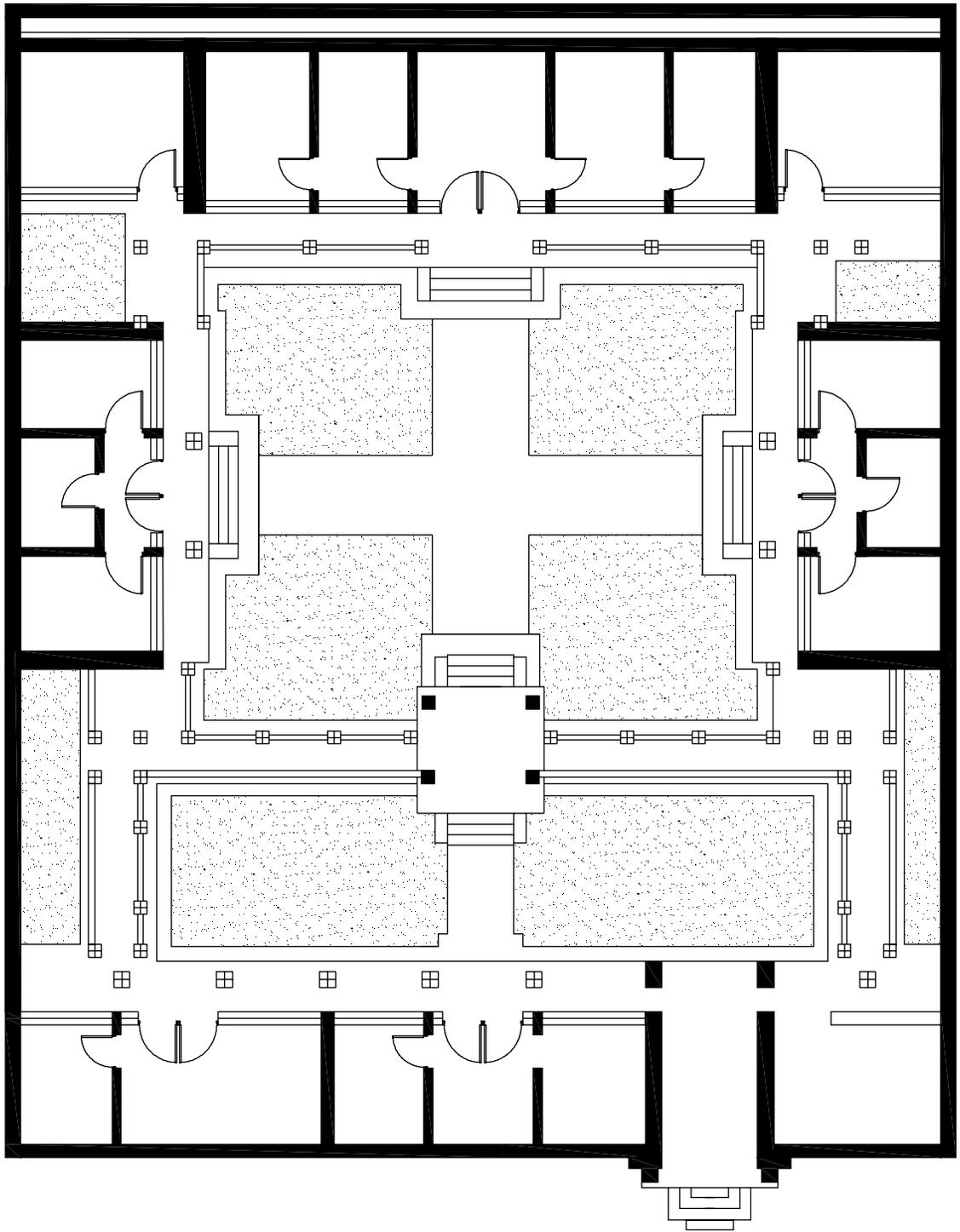
These drawings are based on a reconstitution of several plans and conform as much as possible to the house marked on the urban plan. It is a middle-class *siheyuan*, with only one major courtyard and a separate entrance space behind the south-facing gate.

Surface area of the house: 399 square metres.

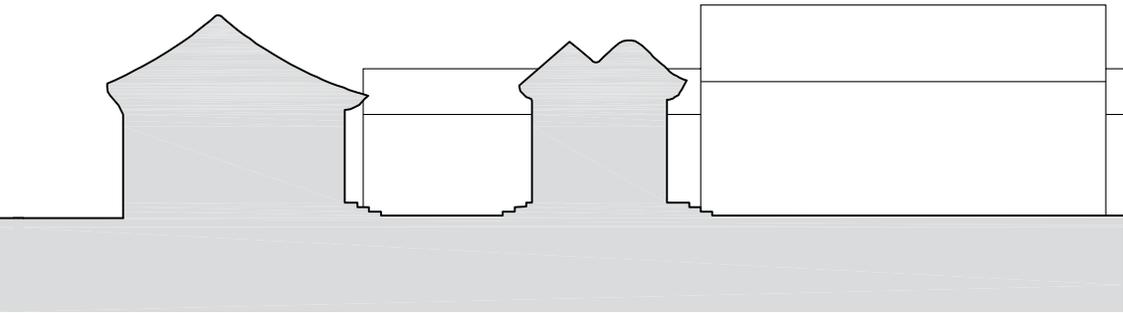


site plan and ground-floor plan 1:500





ground-floor plan 1:200



section 1:200