BOOM
Contents

Introduction 6

Part I
The design of the urban ground plan 10

1 The urban ground plan as the city’s ‘musical score’ 13
2 The urban ground plan and society 19
3 The urban ground plan and the territory 43
4 The composition of the urban ground plan 61
5 A typology of urban ground plans 73
   The urban ground plan as an urbanised landscape 74
   The orthogonal urban ground plan 82
   The monumental urban ground plan 94
   The picturesque and scenic urban ground plans 98
   The modern, functional urban ground plan 104
   The layered or composite urban ground plan 112

Intermezzos I and II
A new urban ground plan for Kop van Zuid in Rotterdam and Westelijke Tuinsteden in Amsterdam 116

1 Kop van Zuid in Rotterdam 119
2 Westelijke Tuinsteden in Amsterdam 131

Part II
The design of public space 142

6 The design task for public space 145
7 The systems of public space 163
   The urban green system 164
   The urban water system 170
   The urban traffic system 176
   The systems of cables and pipelines 182
8 Layout and material use in public space 193
9 A typology of public space 207
   The street 210
   The square and the place 216
   The lane 222
   The boulevard and the avenue 228
   The passage 234
   The gracht canal 240
   The singel canal 246
   The dyke 252
   The park 258
   The common field 264
   The urban motorway 270

Intermezzos III and IV
Design of public space in the centre of The Hague and in Rotterdam West 276

1 The Hague – De Kern Gezond 279
2 Rotterdam West 289
### Part III
**Building regulations** 302

10  **Urban design and building regulations** 305

11  **Elements of building regulations** 311
- Parcelling and building 314
- Density 320
- The transition from public to private 328
- Streetscape and cityscape 332

12  **Tools for building regulations** 341

13  **From rural settlement to city centre: eight exercises in the grammar of the urban fabric** 361
- Rural settlements: Gees and De Rijp 362
- Suburban residential districts: Vreewijk (Rotterdam) and Ypenburg (The Hague) 368
- Urban residential districts: Heemraadssingel (Rotterdam) and Vaillantlaan (The Hague) 374
- City centres: Oude Boteringestraat (Groningen) and Weena (Rotterdam) 380

### Intermezzos v and vi
**Building regulations in Leidsche Rijn (Utrecht) and the railway zone in Delft** 386

- **v  Leidsche Rijn (Utrecht)** 389
- **vi  Railway zone (Delft)** 399

### Part IV
**The programme and utilisation of the city** 408

14  **Changes in cities and society** 411

15  **Spatial tasks in the urban landscape of the twenty-first century** 431
- Territory: towards the sustainable treatment of nature and the environment 434
- Networks: mobility and accessibility 440
- Urban patterns: diversity and mixing of functions 446
- Designing regional coherence 466

16  **Urban design and research in the twenty-first century** 475

**Notes** 491
**Sources of illustrations** 496
**Bibliography** 498
**Index** 504
**Acknowledgements** 509
**Credits** 511
Cities are regularly the locus of major changes in society. Those changes can be economic, social, cultural or political in nature. Cities have even been deemed a prerequisite for development and innovation in a society.¹ For that evolution to become possible, the cities themselves may need to change. Sometimes that may involve large urban extensions; sometimes it may mean changes to the existing city, with radical transformations of areas that are run down or no longer function properly. But many changes can take place without any modifications necessarily being required to the physical structure of the city.

At the same time, there is also considerable continuity in cities: anyone returning to a city after an absence of many years will still recognise much of it and be able to find their way around despite the many economic, social and physical changes. The continuity in spatial structure, with recognisable spatial forms and patterns, is an important aspect for many people that helps them get to know, understand and become attached to the city.

So cities are simultaneously sites of change and of continuity. Urbanism is the discipline that has the task of creating the spatial conditions for these two apparently contradictory aspects. This book gives an overview of the principles behind urbanism, the discipline’s core elements and its body of knowledge. In addition, the relevance of this discipline’s core elements is examined for the current and future developments affecting cities: are the core elements of urbanism still relevant from the perspective of developments in the twenty-first century? The book is largely based on developments in the practice of urbanism in the Netherlands. That does not mean its relevance is limited to the Netherlands. Over the centuries, urbanism in the Netherlands has been open to foreign influences. Conversely, Dutch urbanism has played a key role in the international debate about the future of cities. Such a debate is ongoing at the moment and we hope this book will contribute to that debate.

Urbanism has a long tradition in the Netherlands. This reflects two rather unusual factors. Firstly there is the fact that the Netherlands consists largely of a marshy river delta and not all of the land is suitable for building on without further
measures. From the start, the boggy terrain could only be claimed for agriculture and urban development if the people wishing to settle there cooperated closely, coordinated matters and made carefully considered choices. As early as the late Middle Ages, a planned approach was being taken to the development and layout of urban areas and farmland in the Netherlands. The rational arrangement of land reclamation and major urban extensions such as Amsterdam’s ring of canals garnered great admiration internationally at the time. Surveying and civil engineering were the main instruments of the first urban planners avant la lettre, and these disciplines formed an important basis for the professionalisation of urbanism in the twentieth century.

The second factor prompting the increasing professionalism of urbanism is the relatively extreme deterioration of conditions in Dutch cities in the nineteenth century. The Netherlands may have been a wealthy country, but most of that wealth was in the form of investments overseas. Dutch merchants who lived off their investments became proverbial for their extreme frugality and apathy, personified by the fictional character Jan Salie. While neighbouring countries invested heavily in the new industries, the Dutch economy lagged far behind. Despite this, a series of successive crises in agriculture drove migration from the countryside to the towns and cities. But no investments were made in the cities either, so the result was an explosive growth in hovels and slums and a number of serious cholera epidemics. In the nineteenth century, the Netherlands was a ‘kingdom full of slums’; it had the highest proportion of the population living in slum neighbourhoods in all of Europe. Eventually, a movement emerged at the end of the nineteenth century and start of the twentieth century in which socially-minded politicians, pugnacious trade unionists and enlightened businessmen took the lead in making up for the lost economic and social ground. A belief took hold that these two aspects were inextricably linked: economic renewal was necessary, but could only be achieved if the social conditions of the urban working class were improved, and vice versa. This led to a significant increase in urbanism activity in the twentieth century. Urban planning became a question of emancipation and progress for the nation as a whole. The quality of working-class housing, the quality of the city’s appearance and the distribution of functional programmes across the city all became part of the urban planner’s remit. Berlage’s plan for Amsterdam-Zuid (1915) had a revolutionary role because it brought about a close association between urban planning and architecture, creating an urban look that symbolised social progress. The General Expansion Plan for Amsterdam (Algemeen Uitbreidingsplan or ‘AUP’, 1932), drawn up by Cornelis van Eesteren and Theo van Lohuizen, went one step further and was also a pioneering example of functional planning. Both plans are considered to be historic landmarks in Dutch urbanism, with an influence on the development of the discipline that extended far beyond the Netherlands’ borders and was not limited to the interbellum decades. The cohesive combination of architecture and urban planning, and the tight planning of the functional urban setup became the essential elements in twentieth-century Dutch urban planning, elements that brought it international acclaim. In the 1960s, the close relationship between functional planning and urban design was even formalised in Dutch law. The 1966 Spatial Planning Act (Wet op de ruimtelijke ordening) made the Netherlands a model for planners, designers and policymakers around the world. The philosophy and designs behind these celebrated plans and the Spatial Planning Act have had a significant influence on the theory and practice of urbanism throughout the twentieth century. It is now hard to imagine how things could ever be different. Various authors have described Dutch urbanism and spatial planning during this period as a success and a shining example. However, doubts started to emerge at the end of the twentieth century. The genesis and success of the two elements (the emphasis on the cohesive combination of architecture and urbanism and on a functional basis for the spatial design), with Plan Zuid, the General Expansion Plan and the Spatial Planning Act as unparalleled high points, have to be seen in the context of society at that time. The plans and their legal status are evidence not just of a particular interpretation of urbanism as a
With the aid of new concepts and instruments. In the twenty-first century, urbanism is facing challenges that are new and different in nature to those of previous periods. The economic situation has changed dramatically and will continue to change. The digital revolution and associated globalisation coupled with further robotisation are generating completely new demands and opportunities for the spatial organisation of cities. The same applies for the increasingly urgent need to consider sustainability, climate adaptation, the energy transition and the closed-cycle (or circular) economy.

In short, once again the question is whether the principles of urbanism developed so far can play a meaningful role from the perspective of the twenty-first century. Much of the methodology and toolkit of twentieth-century urbanism seems ‘worn out’. Does this mean that a completely new methodology and a completely new set of tools need to be developed? To what extent can the discipline build on its founding principles, which were largely developed prior to the twentieth century and could therefore perhaps be relevant again for the issues of today and tomorrow?

The need for reflection about the discipline, with a view to ensuring it is fully prepared for the future, did not come out of the blue, nor is it of purely academic interest. This project, which started in 1998, is the result of collaboration between the Department of Urbanism, part of the Faculty of Architecture at Delft University of Technology, and the Van Eesteren-Fluck & Van Lohuizen (EFvL) Foundation. This led to a long-term study, a series of debates and publications, of which this book is a cohesive and condensed account.

**How the book is organised**

The central theme of this book is the distinction between the public and private domains as the foundation for urbanism. This distinction is essential in our modern, bourgeois society. Urbanism is concerned with the spatial dimensions of this distinction. As an activity, its main goal is to promote the public interest while it also has to create the optimum conditions for individual citizens so that they can make the
demographic changes have yielded methods and concepts for controlling and recording the use of land in the city (i.e. the ‘spatio-functional organisation’). This final part also considers the extent to which the core elements of urbanism, as set out in the first three parts, are still relevant for the challenges of the twenty-first century. Some say that urbanisation is now on such a scale and so complex that the guiding principles of urbanism are no longer relevant and that any attempts to design the spatial layout of cities are futile and doomed to failure. It is also claimed that we should have more confidence in the ability of the market or private initiatives to come up with their own solutions.

In this book, we want to investigate whether the challenges of the twenty-first century require a new approach for upholding public interests and what consequences that has for the design of urban ground plans, for the design of public spaces and for the spatio-functional organisation of the city. The four parts of this book are interspersed with descriptions of urban designs that have been put into practice, each providing a concrete illustration of the themes of the preceding part.

best use of their private land. In its essence, an urban design is simply the subdivision of an area into land for public use and plots for private use. The product of this subdivision is the urban ground plan. This essence of the discipline of urbanism is explained in Part I of this book. This first part, in particular chapters 2 and 3, deals with the changing nature of the relationship between public and private interests, which led to new challenges in certain periods that demanded new solutions. At the same time, cities benefit from a high degree of continuity in the spatial structure across time. Urbanism has the task of designing ‘strong’ ground plans that can accommodate social change.

Parts II and III deal with the two separate elements of the ground plan: public space and private space. Regarding public space, the focus is on the design of that public space as the key aspect of the urban ground plan in which public interests are at stake. In the case of private space, the design and layout of the plots and the building structures are primarily a matter for the private landowners; the urbanist’s task is to formulate certain rules that safeguard public interests.

Part IV of this book addresses the question of how the driving forces of economic developments and
Part 1
The design of the urban ground plan

1 The urban ground plan as the city’s ‘musical score’
13
- The intransigent nature of the boundary between public and private
- The cultural appreciation of existing urban structures
- Landscape features, geomorphological structures and hydraulic engineering works
- The urban fabric

2 The urban ground plan and society
19
- The changing meaning of land during four historical periods
- The precursor to the modern city: from a feudal to a bourgeois society
- The emergence of the modern city: regulating land ownership and public works
  - Searching for a balance between economic development, public health and aesthetics
  - Land development: costs and benefits
  - Urbanism as a new discipline involving design and technology
- The city as a Modernist ideal: blurring the relationship between street, plot and building
  - Plan Zuid: building per island rather than per plot
  - The idea of the modern city
- Designing the twenty-first century city: the return of plots, islands and streets

3 The urban ground plan and the territory
43
- The longue durée of the landscape
- The layered urban landscape
- Hydraulic engineering infrastructure: drainage, protection and connection
- Increasing vulnerability and exhaustion of the urban territory
- Using the ground’s resources
- Towards sustainable use of land, water and air
- New assignments, new opportunities
4 The composition of the urban ground plan 61

Cohesion and diversity; primary structure and basic components 61
   Structure and dimensions of the private land: plots and islands 61
   Structure and dimensions of the public land: networks 67
Influence of the ground and the surroundings 67
   Planning area and the ground 68
   Planning area and surroundings 68

5 A typology of urban ground plans 73

The urban ground plan as an urbanised landscape 74

The orthogonal urban ground plan 82
   Speed and flexibility 93

The monumental urban ground plan 94
   Typical formal elements 94

The picturesque and scenic urban ground plans 98
   The picturesque urban ground plan 98
   The scenic urban ground plan 101

The modern, functional urban ground plan 104
   Dutch Modernism i: a new city centre 107
   Dutch Modernism ii: the housing unit 107
   Too much public space 107
   Insufficiently adaptive 111

The layered or composite urban ground plan 112

Intermezzos i and ii
A new urban ground plan for Kop van Zuid in Rotterdam and Westelijke Tuinsteden in Amsterdam 116

I
Kop van Zuid in Rotterdam 119
   From a run-down port area to a new city centre 119
   Ambitions, quality and programme 121
   Spatial structure; design of the urban ground plan 122
   Use of materials in the public space 122
   Kop van Zuid, a long-term project 126

II
Westelijke Tuinsteden in Amsterdam 131
   AUP versus Westelijke Tuinsteden 131
   Transformation of the Westelijke Tuinsteden 137
   A first assessment after ten years of renewal 138
   Two examples of renewal 138
   Grass and concrete 141
Urban ground plan of Manhattan, New York, situation in 1860, according to J. Stübben.