

## Preface

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One might compare the Chair of Architecture and Urban Design at the ETH Zurich, of which I am a professor, to a city: like urban districts, various themes are currently being researched and taught, with multifarious input from assistants and students. Yet, despite this variety of approaches, an overarching “urban concept” is being developed. The essence of this concept is the belief that we can influence and steer the development of the city, but we cannot completely control it.

Consequently, this book does not present a comprehensive theory of urban design, whether in terms of its themes or in the choice of projects. Rather, it is a collection that provides a snapshot of the chair’s work. It contains material from several design studios that our students have worked on in previous years and features key texts that reflect the approach taken by faculty members in their research and teaching. The book is primarily aimed at students who wish to familiarize themselves with the thinking and working in urban design and also at those who are interested in how the Chair of Architecture and Urban Design is addressing design and strategy in contemporary urbanization processes.

I arrived at the ETH Zurich in 2003, having come from Berlin, where I chaired Urban Design at the Technical University. The majority of the assistants that I appointed in Zurich also came from Berlin, where they had studied and graduated under my aegis. Not only is Berlin where the urban design discourse of the 1990s was incredibly intense and progressive, but the city itself was a remarkable example: a palimpsest of successive, fragmentary urban design visions and of “frozen” political differences. We were working in the midst of a constantly evolving wave of creativity that materialized in the form of temporary uses on brownfields and the radical transformation of city districts, such as Prenzlauer Berg, Mitte, and Friedrichshain. We were experiencing what Ungers, Koolhaas, and Kollhoff had anticipated twenty years previously in their manifesto *Die Stadt in der Stadt—Berlin: ein grüner Archipel*.<sup>1</sup>

<sup>1</sup> Christiaanse, Kees: 2004, pp. 21–29

Along with inspiration from Berlin, I also brought ideas and working practices with me from Rotterdam, where my company KCAP Architects and Planners has its headquarters. These include designing with “control and laissez-faire,” perceiving the city as a “landscape,” or designing with scenarios and guidelines. This experience from my professional practice formed a fertile ground for establishing the Chair of Architecture and Urban Design at the ETH Zurich. It was enriched and expanded by the many design studios that we set up in a number of major cities, which shaped the international urban discourse at that time (including Istanbul, Perm, London, Yokohama, Chengdu, Jerusalem, and Amsterdam), as well as in communities and regions of Switzerland, which represented the national discussions.

With a decade of research and teaching behind it, the Chair of Architecture and Urban Design has developed a distinct approach that does not only place emphasis on how a city should look but rather focuses on what a city can give its users and residents. What opportunities can a city offer in order that individuals can unfold socially, culturally, and economically? And how can urban spaces be designed and organized in such a way as to unlock these opportunities?

Adopting this approach, urban design projects should not be geared towards immutability—quite the contrary. After all, if coming generations are also to have the right to use the city according to their needs, we must make sure today that our designs can be adapted to their requirements in the future.

In the spirit of these thoughts, this book seeks to encourage its readers to reflect on the city and on their own urban design practice.

## The City as Resource An Introduction

Tim Rieniets

The city is a hot topic in today’s world. Never before have cities been so widely discussed and written about than they are today. Could this be a coincidence? Hardly. Since the beginning of this century cities have been declared the most important habitat of mankind, at least when you measure this by the number of residents. According to UN statisticians, since the beginning of this millennium more people have lived in cities than in the countryside, and the trend is continuing. This is reason enough for policy, research, and media to have paid careful attention to urban themes.

However, if we measure the importance of cities not by population but by what social, cultural, and intellectual progress they have achieved, then their claim to be the most significant human habitat can be extended further. This is not because people in cities are more talented than those in rural areas but, rather, because in cities they can get a better education, are able to specialize, and are offered more opportunities by the urban labor market, which allows them to employ their capabilities in the most productive way.

There is a surprisingly close correlation between the degree of a country’s urbanization and its prosperity. The more of a nation’s citizens live in cities, the greater its economic wellbeing. It is difficult to prove direct dependencies between urbanization and prosperity; however, the relationship is clear.<sup>1</sup> And the connection also applies if we look not at whole countries but at individual cities, as shown in a study carried out by the Santa Fe Institute. The more people inhabiting a city, the more productivity rises. For every doubling of the population, the measurable economic indicators increase per capita by approximately fifteen percent, from bank deposits to construction sector investment.<sup>2</sup> The researchers, working under the physicist Luís Bettencourt, have calculated for the first time what experience has long taught us: that cities provide an extremely productive and innovative environment.<sup>3</sup>

<sup>1</sup> Bloom, David E. et al.

<sup>2</sup> Lehrer, Jonah

<sup>3</sup> Bettencourt, Luís et al.

Nevertheless, cities have been subject to criticism through the ages. Even in the Bible, the city was depicted as a place of sin and decay. The complaints were particularly vociferous in the twentieth century, when the negative effects of industrialization and automotive transport became obvious. Influential publications such as Jane Jacob's *Death and Life of Great American Cities*<sup>4</sup> or Alexander Mitscherlich's *Die Unwirtlichkeit der Städte*<sup>5</sup> bemoaned the loss of attractive, lively, and humane urban spaces. Many renowned architects and visionaries even advocated the dissolution of the existing cities, to be replaced by more modern and presumably better types of settlement. Ebenezer Howard, the father of the garden city movement, called for London to be reduced to only twenty percent of its then size. Le Corbusier suggested tearing down a whole Parisian district in order to implement his Plan Voisin, while Frank Lloyd Wright argued vehemently for the abolition of industrial cities, which he saw as cramped and tainted by speculation, in favor of new construction of a completely opposite settlement model that would combine the advantages of private property ownership and a low building density.<sup>6</sup>

4 Jacobs, Jane: 1961

5 Mitscherlich, Alexander

6 Wright, Frank Lloyd

Notwithstanding all the criticism and prophecies of doom, today the city is indispensable. Policy and economy are controlled in cities, and it is here that inventions, fashions, and trends emerge, new lifestyles are tried out, and new ways of coexistence are tested. The biggest critics of the city can no longer seriously call for its abolition, as even they have to admit that there is no alternative. And millions of people seem to think the same, as is evident from a mere glance at the growing populations of cities in most parts of the world. This is also true of Europe, including Russia, where urban population figures are stagnating or even shrinking. In these countries the degree of urbanization has not waned, even if the overall population is on the decline.<sup>7</sup>

7 Worldbank

From these observations it can be concluded that life in cities must have more advantages than disadvantages. But what are the advantages of cities? It is best to ask those who are attracted to cities for the answer to this question. The companies that compete with one another for the best locations in the commercial capitals. The workers who seek to participate in urban labor markets. The foreign immigrants who have often undergone great hardship before moving to the cities in search of new

prospects or protection from conditions at home. The students who go to university cities. Or tourists, who come in search of sights, entertainment, and urban flair.

However, cities exert their biggest pull on the millions of rural migrants from within the country who flock into the major cities of Asia, South America, and Africa every year, looking for a better life. These cities are fundamentally different from one another, but when we look at where the poor and the newcomers live, they are astonishingly similar: simple, informally constructed residential areas, often structurally unsound and with a lack of infrastructure, sometimes on small areas of waste ground in the city, and sometimes on large areas covering several square kilometers on the periphery. They are called *favelas* (in Brazil), *villas miserias* (in Argentina), *gecekondus* (in Turkey), or *bidonvilles* (in North Africa). It is estimated that today there are over 250,000 such residential areas, with over a billion inhabitants and counting.<sup>8</sup>

This means that a third of the urban population worldwide lives in these precarious settlements. The other two thirds, however, have little tolerance for such areas. In their view, they are an expression of poverty, deprivation, lack of education, chaos, and criminality. But in the eyes of the residents things are very different. They have come from poorer, even more basic conditions and have traveled to the city to improve their situation. Even though they are among the poorest people there, the city offers them better prospects than the countryside. The city has more jobs, and better healthcare, social benefits, and educational opportunities for their children. They may also expect to encounter more tolerance here, along with greater social mobility and more contact with like-minded people—thus more favorable conditions to develop on the basis of one's capacities and talents.<sup>9-10</sup>

"Cities don't make people poor, they attract poor people."<sup>11</sup> And this is a blessing rather than a curse, as cities are able to alleviate this poverty and provide newcomers with better prospects. Istanbul, for instance, has grown from around 500,000 inhabitants in 1950 to about 17 million today. The city has expanded uncontrolled but has coped with the rapid growth without impoverishment or serious conflicts. It has integrated millions of people from rural regions, from which a new, urban middle class has ultimately emerged.<sup>12</sup> Other migrant cities such as São Paulo and Bangalore have similar success stories.<sup>13-14</sup>

8 United Nations Human Settlements Programme

9 Price, Marie

10 Saunders, Doug

11 Glaeser, Edward L., p.9

12 Esen, Orhan/Lanz, Stephan (eds.)

13 Neuwirth, Robert

14 Saunders, Doug

The rapidly enlarging cities in the southern hemisphere do not, therefore, represent a threat. Of course, these do have serious problems that are often caused by fast and uncontrolled growth. What is less commonly known, however, is that they often have the solutions for the most pressing problems at their fingertips. They reduce population growth, as cities all over the world have lower birth rates than rural areas. They alleviate lack of education, as the level of education of the migrants' children and grandchildren rises. And they create wealth, because they offer better income opportunities than the surrounding countryside, albeit at a low level.

What is happening in the major cities of Asia, Africa, and South America seems very far removed from our own everyday urban life. Yet our largely urbanized society underwent comparable processes of rural exodus and urbanization in the nineteenth century. Our society would not be the same if it had not been able to profit from our cities' innovation and productivity. The fact that these were once longed-for places that promised wealth and social advancement has largely disappeared from our consciousness—the myth lives on only in literature, films, and TV series. This tale of “rags to riches” has seen countless variations, but always takes place against an urban backdrop, as this is where the opportunities for advancement are seen to be greatest.

The fact that today cities in the West do not have the same gravitational pull as those in developing countries is because here the socio-economic gap between urban and rural life largely disappeared during the nineteenth and twentieth centuries. People who live in the countryside now enjoy the same amenities and prospects as city-dwellers, and cities no longer offer better living conditions. On the contrary, in the second half of the last century millions of people in developed, industrial nations decided to escape the unpleasant aspects of large cities and make their homes in suburbs or rural areas.

Yet what might be interpreted as a turning away from the city is, in fact, an extension of urban lifestyles into the countryside. After all, for all their disadvantages and problems, the advantages of cities still hold. Nowhere else can so many people come together in such a small space, bringing their knowledge, talents, and ideas with them. Nowhere else can one find so many things that are necessary for daily life, business, and trade. And

nowhere else do people have access to so many institutions and so much infrastructure. Cities are the absence of distance between people, goods, and institutions.<sup>15</sup> As such, they enable the emergence and constant renewal of dense, highly productive networks, in which every inhabitant is involved in a number of ways: for example, in employment relationships, trade, knowledge transfer, public welfare, neighborhoods, friendships, and families. This also applies to those who have turned their backs on the city in search of more privacy and closeness to nature outside, as even they benefit in many ways from the fact that there are cities nearby, for work, school, shopping, or entertainment. The detached house in the suburbs is thus not a counter-model to the city but rather the extension of urban choices, at least from the point of view of those who have made it their main place of residence.

We might conclude that cities offer a wide range of opportunities, the likes of which can be found only there. This applies to the rapidly growing cities in the global South, as well as to their wealthy counterparts in the developed North, and to inner cities as well as the suburban residential areas that benefit from having them close. These opportunities are the reason why cities might be compared to a resource. After all, a resource is nothing more than this: a tangible or intangible asset that provides its users with the prospect of implementing certain actions or processes through its dedicated use.

In this sense, resources represent promises for the future. The city also holds out such a promise—for every individual who uses it to shape his or her life and personal future, and for society as a whole, which can use the city to further social, cultural, and economic progress.

### The City as Risk

While millions of people in the global South have opted to live in cities, in the rich North awareness of their importance has faded somewhat. Here, the disadvantages of urban life often loom larger in the collective consciousness than the advantages. How did this happen? One explanation is that we have experienced not only the wealth and progress that the rapidly growing industrial cities of the nineteenth and twentieth centuries brought with them but also the more unpleasant aspects of this growth.

<sup>15</sup> Glaeser, Edward L., p. 8

The traumas of industrialization and urbanization have lingered in our collective memory, long after this time has passed.

The mechanization of labor turned work into an accident risk; motorized traffic made public spaces into danger zones; internal combustion engines and industrial production processes filled cities with environmental toxins; and cramped living conditions and a lack of sanitation led to a greater exposure to infection. Living in the early industrial cities was a danger to life and limb: in 1860 the life expectancy in the English countryside was 70, while in industrial cities like Manchester inhabitants could expect to reach only the age of twenty-four.<sup>16</sup>

<sup>16</sup> Eisinger, Angelus: 2009

In addition to accident and health risks, the modern metropolis had the potential to cause social conflict. Preindustrial working and living communities, such as the family, guild, or village, had to yield to the demands of industrialized labor. The individual was released from the ties of these communities in order to participate in modern work- and consumption-focused life in the city. At the same time, most hitherto small cities underwent rapid growth and social diversification among their populations. Life in a familiar community gave way to life among strangers. Back then, pioneers of urban sociology such as Georg Simmel and Louis Wirth described in detail how this life among strangers led to a new way of living and a new breed of people: the urbanites.<sup>17-18</sup>

<sup>17</sup> Simmel, Georg: 2006

<sup>18</sup> Wirth, Louis

Health and social risks were the flip-side of urbanization. And they exist to this day, as shown in the previously mentioned study by the Santa Fe Institute. Accordingly, the increase in social risks correlates directly with the growth of a city, as does the increase in wealth and productivity. With every doubling of the number of inhabitants, cases of disease and criminality also rise by fifteen percent per capita.<sup>19</sup> Unfortunately, it is these negative side effects of urban living that receive the greatest attention from the public and are gratefully seized upon by the sensationalist media and populist politicians.

<sup>19</sup> Lehrer, Jonah

In places where the expectations of what cities can provide are particularly high, such as in the rapidly growing cities of emerging or developing countries, people are prepared to undergo particularly serious risks in order to have access to the opportunities a city offers. This is especially true of the poorest, who often settle on floodplains, unstable slopes, or landfill sites

and take their chances when it comes to inadequate supplies, poor hygiene standards, and their uncertain legal status.

The people who moved from the countryside to the new industrial cities of North America and Europe in the nineteenth century were similarly risk-taking. With increasing prosperity and rising social and legal certainty, however, this behavior declined, to the extent that part of their prosperity and technical progress, which had been achieved through urbanization, was now invested in curbing the risks incurred. As a result, the modern metropolis of the nineteenth and twentieth century had a massive array of technologies and spatial structures, all geared towards making life in the city safer, healthier, and more comfortable.

Entire industries sprang up based on the need for greater safety and comfort within the city. They continually developed new products to make it easier for city-dwellers to protect themselves from the ever-present annoyances and dangers of their environment: air conditioning (to protect against weather and gas emissions), alarm systems (criminal trespassing), and fire alarms (fires within the home), to name but a few. Behind building façades and beneath the ground itself lie materials and technologies that ensure greater safety and healthy living: seals, insulating materials, fire retardants, isolation techniques, fastenings, and much more. For all their diversity, all of these components have one thing in common: they create distance and separation where the density of urban living creates hazards.

This also applies to the electronic devices that in recent years have expanded our arsenal of safety technology. One example is the deterrent effect of surveillance cameras. Others are GPS devices and Smartphone applications that allow us to navigate the urban jungle without any external contact.

In urban design there has also been an attempt to reduce the risks of densely built-up cities and to provide greater safety and comfort. Just like the safety technologies mentioned previously, urban design has also adopted the principles of spatial separation and distancing. Uses that seem to clash with one another, such as living and working, and which were often situated very close to one another in the nineteenth-century city, have now been parted: potentially dangerous sites have been banned from city centers; cars have been given their own thoroughfares; and



pedestrians have been banished from the roads. Fire-resisting walls and clearance spaces have been incorporated into buildings, along with noise protection and privacy measures. All of this not only improved the level of safety and comfort but also meant that the diverse interaction between people that so marked public life in the emerging modern cities of the nineteenth century gradually waned.

The principles of spatial separation and distancing became the predominant motifs of modern urban design. They were used in the hope of leaving the cramped and precarious accommodation of the nineteenth century behind and creating living spaces that were suitable for an enlightened industrial society. The defining urban design concepts of the postwar period, such as the dispersed and the car-friendly city, came from this way of thinking. It seemed as though the difficult experiences of the past could be overcome for good through progressive planning.

The property market also echoed the principles of spatial separation and distancing. This was caused not so much by these design principles but rather by the individual housing preferences of the rising middle class, which tended towards detached housing on the edges of cities. This process of suburbanization, which defined the urban development of Western industrialized countries in the second half of the twentieth century, is also a reaction to the uncertainties and inconveniences of the modern metropolis. In many regions, the desire for greater safety, health, and individual comfort resulted in the disproportionate growth of the city's peripheries, along with the social segregation of the population. While the new suburbs were populated primarily by the middle class and higher earners, the old inner city residential areas saw a concentration of poor and migrant groups.

We might conclude that the spatial and social structural features of the city, especially their density and diversity, are more than just fertile ground for innovation and progress. This density and diversity were also the original cause of social and health risks. In particular, they contributed to giving the modern metropolis an unfavorable image. As a result, combating the pitfalls and risks of the city and increasing the safety and comfort of the inhabitants were seen as key concerns in twentieth-century architecture, planning, and technological development. This struggle could be driven by the city's wealth and innovation. While

that might seem contradictory, the results of these efforts were just as conflicting. Although they succeeded in reducing and regulating the density and diversity of the city, they ended by repressing not only the risks, but also the potential. One might say: the city is a resource that tends to destroy itself.

From this historical perspective, the question remains as to whether this fate is inevitable, or whether we might envisage a city that is both safe and comfortable without losing any of its potential for integration and innovation. In current urban design discourse, the idea of the dispersed and functionally segregated city is long a thing of the past. Today, experts also see suburbanization as a twentieth-century lapse in urban design, as its heavy demand for space, materials, and energy is difficult to reconcile with the sustainability goals of the twenty-first century. Urban sprawl has thus slowed in many areas, but it has not yet come to a complete standstill.

Meanwhile, another type of urban project has emerged in cities around the globe that emphasizes comfort, status, and security, while subverting urban cohesion. Large-scale urban developments, developed and marketed by private firms, such as office and industrial parks, shopping and leisure complexes, and high-priced residential schemes. Such projects are often the size of whole city districts but are only rarely geared towards the concept of a socially and functionally diverse and structurally open city. Quite the opposite, in fact: these schemes are driven by market principles and have to compete on the real estate market. They do this by symbolic means, for instance, through exclusive architectural design that deliberately attempts to distinguish itself from the urban surroundings. And they also aim to achieve this in terms of urban design and social matters, by creating spatial distance and often by making the property accessible only to specific user groups.

### **The City as Consumer**

The kind of spatial separation and segregation that so defined cities in developed industrial countries in the twentieth century could be implemented only through the heavy use of valuable resources and complex technological aids. The growing distances between the different functional spaces within cities had to be overcome through the use of technological infrastructure. This

safeguarded productivity and innovation, which had previously been based on the city's spatial density and diversity. Since its inception, therefore, modern urban design has largely been concerned with equipping growing industrial cities with pipes, cables, roads, and rails, as well as providing the necessary supply and sanitation services.<sup>20</sup>

<sup>20</sup> See Graham, Stephen

Above all, the car allowed a growing section of the population to cope with everyday living despite the long distances involved. Urban life was played out less in a contiguous functional space but rather in pendulum-like movements between home, school, workplace, and leisure or recreational facilities. Moreover, the car soon became essential to the standard of comfort and safety expected by city-dwellers. By using a car, one was no longer exposed to the inconveniences of public spaces and infrastructure.<sup>21</sup> The recent popularity of sports utility vehicles (SUVs), their beefy and powerful-looking design suggesting a high level of security, confirms the topicality of this hypothesis.

<sup>21</sup> See Urry, John

Today, freight and passenger traffic take up an enormous amount of the space needed by the city, in the form of roads, bridges, rails, stations, and car parks. These surfaces and systems reduce the building density of the city and often act as barriers that are difficult or impossible to overcome. Immediate, interpersonal interaction on the streets has been greatly restricted by the process of making cities suitable for cars.

In addition, freight and passenger transport account for about a third of a city's total energy consumption and are thus responsible for a considerable share of harmful emissions. The energy requirement of private households is at a similar level to that of freight and passenger transport. At our latitude, this energy consumption is largely accounted for by heating and is thus directly dependent on the size and structural form of the particular building: the bigger the volume to be heated or the larger the building's surface, the greater the energy requirement. It is particularly high, therefore, in areas with a relatively low building density, especially in suburban residential areas, because, due to a relatively large building surface per capita, they have a larger heat demand, and people from these areas also use their cars to commute longer distances than the average. These and other developments have led to a situation in which the cities of today have a very high energy requirement. Worldwide, cities account

for about seventy percent of the total energy requirement and about eighty percent of greenhouse gases are emitted in cities. This is all despite the fact that only around fifty percent of the world's population is city-dwellers.

These figures are particularly thought-provoking if we consider that cities actually offer the best conditions for resource-efficient living and economic behavior: high building density and the resulting small building surface per capita allow for heat savings; short distances between the different functional areas allow supply and disposal systems to be optimized; and the sharing of buildings and infrastructure can yield further savings of energy and other resources. If cities did not exist in this day and age, they would have to be invented urgently in order to meet today's challenges of environmental and climate protection.

Unfortunately, the potential of the city for resource-efficient lifestyles and economic behavior has been obstructed over the last century. The modernization and expansion of cities in the twentieth century was the result of a firm belief in technological progress and the long-term availability of cheap energy. As a consequence, nowadays our cities are defined by structures that require a high level of energy to operate and maintain, regardless of expected energy shortages and price rises. Life in these cities comes at a high price, one that will largely be paid by future generations if we do not succeed in alleviating the current strain on the environment and climate.

Today, making cities environmentally friendly and resource-efficient is therefore one of the most important tasks of policy and planning. Under the key concept of "sustainability," architects, engineers, researchers, and industries are working to reduce the energy requirements of buildings and technical infrastructure, reduce heat emissions, and develop resource-efficient technology. In no time, a separate subsegment of the construction industry has formed around the fast-growing market for sustainable building, generating numerous orders, research grants, and jobs.

As a result, the concept of sustainable building has grown in popularity but has not been clearly defined. It has become a generic term for everything that might be classed as good and responsible design in the broadest sense. This encompasses environmental and economic aspects, as well as concerns relating

to social and generational justice, as set out by the Brundtland Commission in 1987. Although the concept of sustainable building is so varied, a key idea has developed at its core: environmentally friendly building, which can be traced back to the early environmental movement of the 1970s and even before. According to this thinking, the man-made environment should have a harmonious relationship with the natural environment and ensure its long-term maintenance. In concrete terms, this means that the construction and use of buildings should take up little energy, space, or other vulnerable resources, that they should release little in the way of harmful emissions during their operation, and that if they are demolished, they should leave behind as few polluting residues as possible.

If sustainable building is seen from the perspective of human ecology, its ethical framework is not the built environment itself—in other words, the city—but the entire ecosystem, with which the built environment should have a lasting relationship. Strictly speaking, therefore, the city is not the focus of sustainable building, but rather a means to achieve other goals, mainly relating to environmental sustainability. Given current climate and environmental stresses, this ecocentric interpretation of sustainable building is plausible. However, therein lies the danger that we not only see environmental friendliness as a desirable feature of architecture and urban design but that we equate it with good architecture and urban design. This explains why carbon-neutral model cities such as those currently being built in China and the Persian Gulf are presented as enlightened and exemplary, although their environmental qualities does not allow us to draw any conclusions about their urban qualities.

Even more seriously, this kind of sustainable building, which is dedicated to impacting on the waste of resources seen in our built environment, nurses a long-standing antiurban resentment: that cities are contrary to nature because they harm the environment and climate. It is no coincidence, therefore, that the way in which sustainable building is presented in the popular media is often cloaked in design features used to refer to the natural world: Roofs and façades are greened, synthetic materials are replaced by natural materials, and sometimes shapes that used to be rectangular are smoothed into biomorphic forms. This kind of design expresses a latent distrust of construction, a distrust that

is also increasingly expressed by environmentally concerned citizens, has found an aesthetic expression. In countless initiatives and referendums, they strongly back the protection of natural environments and oppose new building projects.

We might conclude that the prolific productivity of the modern metropolis in the twentieth century was not due only to its special structural features but also to the availability of fossil fuels. These were used in the construction and operation of transport and communications infrastructures in order to make the most of the advantages of urban density and diversity. This allowed even more people, goods, and information to be connected to one another, while also increasing comfort and safety. All this was possible due only to a substantial use of energy and other vulnerable resources, with the result that since cities were industrialized and made suitable for cars, they have increasingly become nodes of environmental and climatic stresses.

Consequently, the substantial resource requirements of cities play a central role in the current discourse. The fact that the city itself can be seen as a resource that is worth protecting and managing in a sustainable way—a resource that might even contribute towards finding the solutions to environmental and climate problems—is difficult to communicate due to the acute lack in environmental policy of a call to action.

#### **Building Cities Sustainably: How to Use this Book**

This book focuses on the idea that has already been outlined at the beginning of this Introduction: that the city is a resource. It is a resource for every individual who can use the city to shape his or her life and personal future and for society as a whole, which can use the city to further social, cultural, and economic progress.

If we understand the city as a resource, a different understanding of sustainable building comes to the fore. An understanding of sustainable building that does not design cities for the protection of other resources but—simply speaking— seeks the protection of itself. Or, to put it more succinctly: seeks the protection of what the city can offer its inhabitants in terms of opportunities and prospects. Thus, the relationship between people and the *built* environment should be in the foreground, rather than that between people and the *natural* environment, as



is prevalent in the current ecocentric attitude towards sustainable building.

This change of perspective towards sustainable building does not run contrary to familiar sustainability concepts, but must incorporate them. It is not an either/or but a both/and decision, as the relationship between people and the built environment can only last if its environmental, economic, and social foundations are secured in this way. However, unlike the manner in which sustainable building is represented in popular sustainability discourse, the city should not be the means to the end of achieving environmental or other sustainability-related goals. Rather, it should be the sustainability goal in itself—with urban design as the preferred means to achieve that goal.

If we describe the city as a resource, this can have different interpretations. One possibility is to see the built space of the city as a resource: buildings, open spaces, and infrastructure, together with their functional, tangible, and intangible (e.g., historical, atmospheric, emotional) values. Against this background, the task of urban design would be to use this resource carefully and effectively. For instance, by reintegrating vacant buildings into the economic and usage cycle of the city in order to use the materials, energy, and technology, as well as the stories and memories that are bound up with these buildings, to further develop the city.<sup>22</sup> The same goes for the existing urban structures, which can be reinterpreted,<sup>23</sup> reorganized,<sup>24</sup> and further developed<sup>25–26</sup> for future use.

Another approach is to see not the built space but rather the opportunities for action that it affords, as a resource: the opportunity to profit from the people, goods, and information that are concentrated within the confined space of the city. Here, too, the task of urban design would be to tap into this resource and make it usable. For instance, the city could be designed in such a way that as many relationships as possible can be formed<sup>27</sup> and the maximum number of encounters between people and things can occur.<sup>28</sup> Or the city could be planned and built in such a way that these opportunities for action could be developed not only now but also in the future.<sup>29–30</sup> Moreover, the future users themselves could participate in the planning and construction processes rather than leaving these processes solely to specialists and investors.<sup>31</sup>

22 See Baum, Martina: "Reuse," p. 145, in this book  
23 See "Reinterpreting," p. 155, in this book  
24 See "Reorganization," p. 193, in this book  
25 See "Designing Resilience," p. 135, in this book  
26 See "Create Resistance," p. 223, in this book

27 See Kretz, Simon/Salewski, Christian: "Urbanity of Things," p. 167, in this book  
28 See Rieniets, Tim: "Space for Encounters," p. 181, in this book  
29 See Salewski, Christian: "Realms of Opportunity," p. 73, in this book  
30 See Salewski, Christian: "Parcellation and Transformation," p. 199, in this book  
31 See Mikoleit, Anne: "Alternative Urban Practices," p. 115, in this book

The research and teaching at the Chair of Architecture and Urban Design at the ETH Zurich have long been informed by these and similar considerations, so it was a natural step to bring these reflections together in a book. This was not done with the aim of setting out existing, tried-and-tested knowledge and certainly not in order to present final findings. The aim of this book is simply to add other—perhaps even new—ways of thinking and working to the discussion, within the context of the current discourse on sustainability.

The contributions to this book are not arranged in any particular order and can be read independently of one another. If they are read in the given order, the reader will follow a possible design process, starting with the consideration, analysis, and mapping of the city as a resource,<sup>32–34</sup> before moving on to the representation and communication of design processes<sup>35–36</sup> and then the previously mentioned themes and methods.

However, it is necessary to deal with the inevitable incompleteness of this book. The work that went into it has raised more questions than it answered. This also applies to themes that may seem crucial from a current perspective, but which fell by the wayside over the long process of producing the volume. Examples include topics from the fields of land policy, housing, infrastructure planning, and management of waste land, along with many more. These gaps only make it clearer that the subject covered in this book is still relatively new and requires a lot more research.

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32 See Boucsein, Benedikt: "Situations," p. 25, in this book  
33 See "Depicting," p. 35, in this book  
34 See Rieniets, Tim: "Mapping," p. 47, in this book  
35 See Kovári, Thomas: "Imagination," p. 95, in this book  
36 See Kretz, Simon: "Narration," p. 103, in this book

