



BIRKHAUSER

Leonhard Schenk

DESIGNING CITIES

Basics – Principles – Projects

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With contributions by Oliver Fritz, Rolo Fütterer and Markus Neppi



Birkhäuser
Basel

Designing Cities
Basics, Principles, Projects
Leonhard Schenk

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PICTOGRAM-KEY



– Project



– Website



– Year



– Theme



– Competition



– Award



– Category



– Tags



– Author(s)

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Prof. Dipl.-Ing. Leonhard Schenk, Architect

Leonhard Schenk, Prof. Dipl.-Ing., born 1965, directs the urban design program at HTWG Konstanz. He is an architect in private practice, a municipal architect, and urban planner who is a member of the Association of German Architects (Bund Deutscher Architekten, BDA), the German Work Federation (Deutscher Werkbund, DWB), the Association of Town, Regional and State Planning (Vereinigung für Stadt-, Regional- und Landesplanung, SRL) and the German Academy for Urban and Regional Planning (Deutschen Akademie für Städtebau und Landesplanung, DASL).

As owner of the firm LS Architektur Städtebau in Stuttgart, he deals with urban planning from both the client's viewpoint – as a consultant to municipalities, corporations and governmental institutions as well as NGOs – and the architect's point of view – through draft plans, master planning, and competition entries. One such competition led to his co-founding of the firm LEHEN drei Architektur Stadtplanung, where he remained a partner until 2008. It was during that time that he won the German Urban Design Award and the European Urban and Regional Planning Award, both conferred for the "French Quarter" project in Tübingen.

The perspective taken in this book is represented by the question "How is a city designed?" – which Leonhard Schenk regularly explores with his students. This viewpoint has given rise to this compendium of abstracting and thus universal design methods and tools, both old and new, that Schenk analyzes, discusses, and evaluates for their applicability by referring to successful designs, frequently exemplified by winning competition entries. The author draws upon numerous publications, above all from those on urban design and housing in Germany and the Netherlands, and a wealth of experience – from his own participation in competitions but especially from his extensive activities as a consultant and as a member of juries for urban design projects.

"Even the most loving engagement with the theoretical problems of art must never hinder the creator from working intuitively. [...] Art theory exists to elucidate creative activity, not to arouse it."¹

— Fritz Schumacher, 1926

THE above quote from *Das bauliche Gestalten* (*The design of buildings*) describes the possibilities and limitations of this book. We can approach the creative process from many different angles and analyze methods and processes – yet a fundamental aspect of designing, namely that which Schumacher calls intuition, will remain closed to rational examination.

This book is intended to elucidate the design principles of urban design and make them understandable. It is not meant to be a book of recipes for how to produce good urban designs. Nevertheless, with this book I hope to be able to give aspiring as well as established architects and urban planners new impulses for one's own design practice.

My sincere thanks go to the master students in my two seminars. Without the discussions we held and the seminal thoughts that arose in the process, this book would not have been possible in its present form. Steffen Maier has done much to improve the graphic representations of the historical examples and three colleagues have provided written contributions: Prof. Rolo Fütterer and Prof. Markus Neppi each depict how prizewinning designs can be implemented successfully, and Prof. Oliver Fritz describes new, computer-based design instruments for urban design. Here, too, many thanks!

Special thanks go to my family for their patience; my editor, Annette Gref; my colleagues Martin Feketics and Prof. Dr.-Ing. Dittmar Machule, who were helpful in providing me with valuable references; the many offices that kindly placed their know-how – namely plans, sketches, and model photos – at my disposal; and the Lebendige Stadt Foundation for their financial support.

Constance/Stuttgart, Fall 2012
Leonhard Schenk

¹ Fritz Schumacher, *Das bauliche Gestalten* (Basel/Berlin/Boston: Birkhäuser, 1991; orig. publ. 1926), p. 53.

1 Introduction

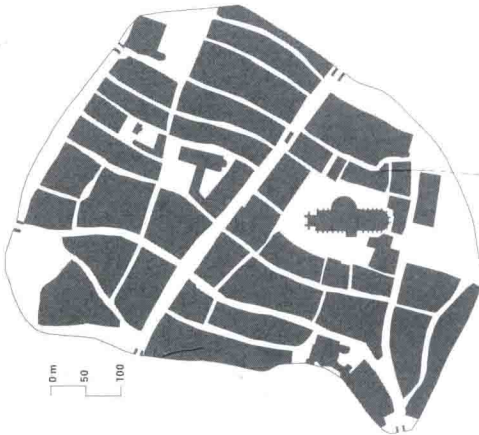
Urban Planning – Urban Design – Design Principles

— SINCE 2009, for the first time in our history, more people live in cities than in rural areas. Whereas there are approximately 3.5 billion city dwellers at present, the United Nations forecasts that up to 6.3 billion people will be living in urban areas in 2050.¹ Even if the number of so-called megacities – cities with 10 million or more inhabitants – increases, more than half of city dwellers will continue to live in smaller urban centers with fewer than half a million inhabitants each. Presumably only a tiny fraction of this increased urbanization will occur in a planned manner. But for this portion alone, urban planning and urban design – the design-oriented facet of urban planning concerned with built form and space – will be faced with tasks of an unimagined scope.

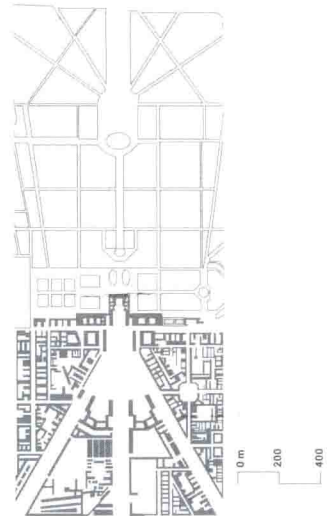
¹ Here and below, see http://esa.un.org/unpd/wup/pdf/WUP2009_Highlights_Final_R1.pdf (accessed December 20, 2012), p. 1.

URBAN PLANNING is the “endeavor to give order to spatial coexistence while meeting human needs – on the level of the city or the community.”² This endeavor embraces the social, economic, and environmental aspects, the balance between public and private concerns, and also aspects of urban design like development, conservation, and continuation of the urban form, the townscape, and the landscape.³ Whereas urban planning focuses more on the general planning process and how it is embedded in society, urban design is concerned with the specifics of a designed, built spatial organization: Thus urban design has the objective of establishing physical identity and creating memorable places.

Every era had and has its own notion of physical identity and its expression in the form of built urban structures. Especially with the founding cities of the ancient world yet continuing to the Asian new towns of our day, the fundamental social and artistic orders behind city concepts are clearly legible. The power of the church, feudalism, or civil society was manifested in the medieval city. The Baroque city celebrated the claim to power of the sovereign ruler; the city of the nineteenth century celebrated the newly emerged middle-class self-image; and the modern city of the twentieth century celebrated the achievements of industrialization, economic growth, and mobility.



FREIBURG IM BREISGAU, 1120 (D)

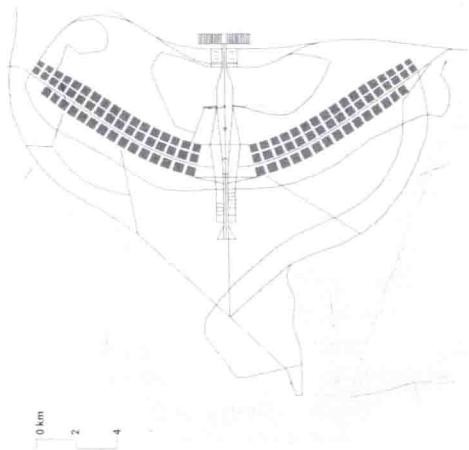


VERSAILLES, Louis Le Vau/André Le Nôtre et al., 1668 (F)

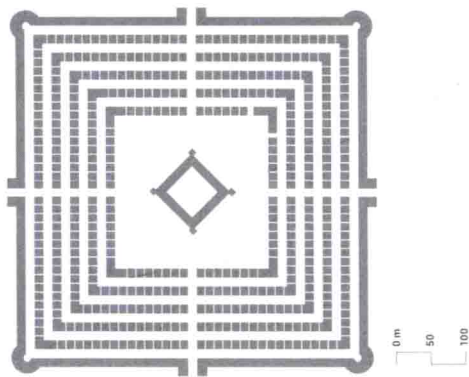
² Gerd Albers, *Stadtplanung: Eine praxisorientierte Einführung* (Darmstadt: Wissenschaftliche Buchgesellschaft, 1988), p. 4.

³ See BauGB – Baugesetzbuch (Federal Building Code), §1 (5), last amended on July 22, 2011.

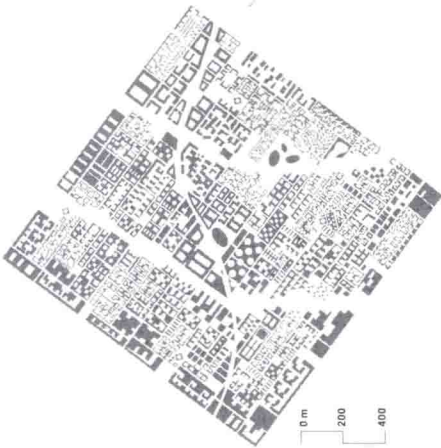
Whereas the classic Chinese city reflects the divine cosmic order, cities like Tim-gad that were founded by the Romans reflect the pragmatic basic structure of a Roman military camp, the *Castrum Romanum*. Interestingly, both of these urban models have an orthogonally divided square as their basic form, but the significance of the individual parts is completely different. The ideal form of the square is exemplified by the Renaissance city of Freudenstadt in the Black Forest as well as by Masdar City, the ecocity currently under construction in the United Arab Emirates.



BRASÍLIA, Lúcio Costa/Oscar Niemeyer, 1956 (BR)



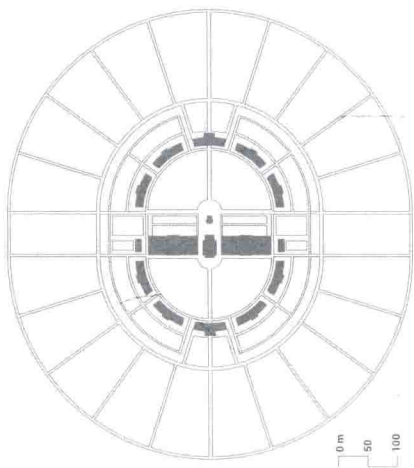
FREUDENSTADT, Heinrich Schickhardt, 1599 (D)



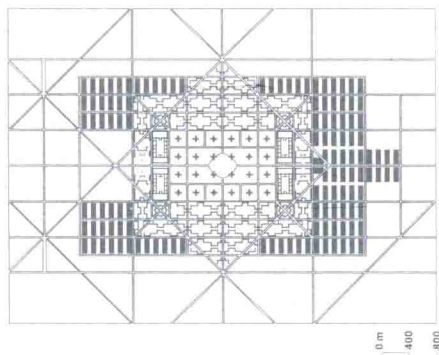
MASDAR CITY, Foster + Partners, 2007 (UAE)

Since none of the examples is directly related to any of the others, it becomes clear that urban design has fundamental principles of design and order that can be applied irrespective of the social model, era, zeitgeist, or fashion trends. Even concepts that are regarded as particularly innovative, like that of Masdar City, routinely make use of previously known design methods. The fundamental artistic and compositional principles are largely timeless even though the substance behind them is not. The shift in meaning takes place in the details, as the changing significance of the middle shows: the center of the Chinese city is the site occupied by the imperial palace, but in the ancient Greek city that position is taken by the public agora; in the Roman city, it is the forum; the medieval town has its market; Ledoux's design for the ideal city of Chaux at the Royal Saltworks in Arc-et-Senans places the factory director's house there; in L'Enfant's plan for the US capital of Washington, D.C., it is the United States Capitol; Le Corbusier's *Ville contemporaine* envisages a transportation hub, where air taxis land on a plaza-like roof; and in Masdar City, by Foster + Partners, it is the future science city's hotel and conference center.

The urbanistic principles of design and order presented in this book are the outcome of a more than 5,000-year-long history of the city. Whereas some principles, like the orthogonal grid, are very old, others came into existence roughly 140 years ago, for example the nongeometric, picturesque settlement patterns that were consciously applied in North American suburbs as of 1870 as well as European garden cities beginning in 1900. The situation is similar with urban building blocks, the various components comprising the city. The various urban building blocks that are available to us in contemporary urban design have evolved over a very long period of time – some over thousands of years and others, like the Zeile, only in the last hundred years.



IDEAL CITY OF CHAUX, expansion of the Royal Saltworks in Arc-et-Senans, Claude-Nicolas Ledoux, 1790 (F)



VILLE CONTEMPORAINE, Le Corbusier, 1922 (F)