

Architectural Scale Models In The Digital Age Design Representation And Manufacturing

Architectural Scale Models in the Digital Agedesign, representation and manufacturingBirkhäuserArchitectural Model as MachineRoutledge

Meinhard von Gerkan and Volkwin Marg are considered to be among the most acclaimed architects worldwide. Their projects and completed works have in fact attracted international attention. The present book focuses on the models produced over the years and therefore offers a unique look into the creative process of the architects. Of primary importance is the quality of the designs and buildings which is already easily discernible in the models. What is also perceptible is the need to maintain and further develop the high standards which had already distinguished the early projects. The architects seek no short-lived trends or superfluous effects; on the contrary, what they consider of utmost importance is their sense of social responsibility which, in a firm of such dimensions, is translated into no shallow pathos but rather into a daily commitment. "Architecture is an art that is applied in society. The result is the product of a dialogue." (Meinhard von Gerkan) Given the large number of the buildings and competition designs (from among 256 award-winning works, 98 have received first prize) not everything can be included in the annals of architectural history, but the essential components of their work and that of their staff cannot be overlooked: namely, the attention to structural details, the material-oriented design and a simplicity based on usefulness - all elements which, in the best examples cited, have attained a level of self-evident naturalness.

A description of the making of a simple architectural model. By describing the construction of a simple commercial architectural model, this book shows some of the tools, materials and techniques employed by professional modelmakers. There are many different ways to make most parts of a model like this. This book gives a basic introduction that can be built upon with practice and the study of other models.

Architectural Model Building

Worldmodelling

Fundamentals of Digital Drawing, 3D Modeling, and Visual Programming in Architectural Design

The Architectural Model

Architectural Model Making at Its Finest

Architectural Model as Machine

"Architectural Model as Machine offers a unique view of the architectural scale model's varying uses as a thinking and defining mechanism for understanding and demonstrating architectural concepts. Models have been an important part of the design process for centuries and understanding how they are used remains important to the study of architectural design. Such models allow architects to test the future building, to explore and define the unknown and to develop unexpected conclusions. It is important to understand how models are used in the design process because both their potential for meaning and their techniques can be revealed as representative of the architect's thinking." The author takes the reader through the history and significance of models in architecture from the magic of the Egyptian scale model to the uses of the model in contemporary architecture. This book shows how architectural scale models offer architects an understandable way in which to develop and define their concepts.

Architects' models serve as bridge between an idea and its realization. Models are one of the three means by which an architect invents and develops his design: sketch–model–computer model. No other representational form is as effective in enabling the viewer to perceive the spaces, shapes, surfaces and textures created by the architect's design — it is therefore a prerequisite in the design process. Architectural Models provides clear and comprehensible instruction explaining how design ideas can be skillfully translated into models. Some 200 black and white illustrations and, new to this edition, more than 40 extraordinary, full color photographs, provide a comprehensive visual explanation of the text. In this completely revised edition, the authors convey practical basics and offer a wealth of innovative and valuable suggestions for students of architecture or graphic arts, as well as for experienced architectural model makers.

An investigation of different uses for the architectural model through history—as sign, souvenir, funerary object, didactic tool, medium for design, and architect's muse. For more than five hundred years, architects have employed three-dimensional models as tools to test, refine, and illustrate their ideas. But, as Matthew Mindrup shows, the uses of physical architectural models extend beyond mere representation. An architectural model can also simulate, instruct, inspire, and generate architectural designs. It can be, among other things, sign, souvenir, toy, funerary object, didactic tool, medium, or muse. In this book, Mindrup surveys the history of architectural models by investigating their uses, both theoretical and practical. Tracing the architectural model's development from antiquity to the present, Mindrup also offers an interpretive framework for understanding each of its applications in the context of time and place. He first examines models meant to portray extant, fantastic, or proposed structures, describing their use in ancient funerary or dedicatory practices, in which models are endowed with magical power; as a medium for architectural reverie and inspiration; and as prototypes for twentieth-century experimental designs. Mindrup then considers models that exemplify certain architectural uses, exploring the influence of Leon Battista Alberti's dictum that models be simple, lest they distract from the architect's ideas; analyzing the model as a generative tool; and investigating allegorical, analogical, and anagogical interpretations of models. Mindrup's histories show how the model can be a surrogate for the architectural structure itself, or for the experience of its formal, tactile, and sensory complexity; and beyond that, that the manipulation, play, experimentation, and dreaming enabled by models allow us to imagine architecture in new ways.

The Routledge Companion to Architectural Drawings and Models

Making Scale Models

Building to Scale

A New View of Models from Antiquity to the Present Day

Working with Architectural Models

Architectural Scale Models in the Digital Age

Presents works by renowned scale model studios. Showcases architectural models of avant-garde architects and designers from all over the world, such as JDS Architects, UNStudio, J. Mayer H. Architects, the next ENTERprise, and David Garcia Studio.

From the first millennium B.C. until the arrival of Europeans in the sixteenth century, artists from across the ancient Americas created small-scale architectural effigies to be placed in the tombs of important individuals. These works range from highly abstracted, minimalist representations of temples and houses to elaborate complexes populated with figures, conveying a rich sense of ancient ritual and daily life. Although often called models, these effigies were not created as prototypes for structures, but rather to serve as components of funerary practices that conveyed beliefs about an afterlife. Design for Eternity is the first publication in English to explore the full variety of these exquisite architectural works. The vivid illustrations and insightful essays focus on the concepts embodied in architectural representations and the role these intriguing sculptures played in mediating relationships among the living, the dead, and the divine.

Essays by Dieter Bogner, Friedrich Kiesler, Harald Krejci and Valentina Sonzogni.

Architectural Models from the Ancient Americas

The "miniature boom" of mid-century modernism

Construction and Design Manual

Virtual Aesthetics in Architecture

Little Big Houses

Idee und Modell /Idea and Model

Advances in computer-aided design have proven to be an invaluable tool for the architect and designer, yet Frank Gehry still begins his creative process by making "simple" models out of modest materials. Drawings and video, while an essential part of the design process, are still not substitutes for the tactile sensation one receives from a scale model. Drawing on 20 years experience in art and architecture, the author has developed this book on model making as it applies to students and professionals of the built environment. More than 300 photographs illustrate a multitude of techniques and the use of a wide variety of materials, providing a solid foundation for students and professionals to create and enjoy three-dimensional model making for interior design, architecture, landscape architecture, furniture design, theatrical design, and retail merchandising.

The physical model is an important communication tool for architects. Although the proliferation of CAD programs has enabled the creation of increasingly complex computer models and virtual environments, there is also a growing need to address the three-dimensional qualities of architecture that may be lost when using such media. This book focuses on the inspiring possibilities for modelling the built environment with all the different media and techniques available. In describing the use of different models in different contexts, the book provides a practical guide to how and why models are used, and what they are used for. This second edition includes more detailed step-by-step exercises, expanded discussion of materials and techniques, updated coverage of digital techniques and new case studies.

Yee is today's preeminent practitioner of origami architecture and a master paper crafter who has dedicated his life to creating scale paper models of the world's most famous buildings. Origami Architecture Kit features three of Yee's most popular designs, each a stunning example of architectural and engineering genius: The Eiffel Tower The White House The Sydney Opera House This extraordinary origami kit contains twenty sheets of high quality, pre-cut cardstock, allowing you the fun of punching out the more than fifty-five individual pieces and assembling these masterpieces. A detailed full-color instruction booklet with more than 150 photos guides your paper crafting adventure. Once completed, the paper models can be displayed as three-dimensional buildings or folded flat for easy storage and transport. Origami Architecture Kit is the perfect gift for architecture enthusiasts, paper crafters, and you!

Models

Architectural Models

The Ecology of the Architectural Model

From Translating to Archiving, Collecting and Displaying

Model Making for Architects

An Architectural Model

This book offers an explanation of why scale models are important to the design process. Albert Smith takes the reader through the history and significance of models in architecture from the magic of the Egyptian scale model to the present day. Through this description of the relationship between architecture and the scale model, Smith demonstrates the most effective process between concept and 'machine', between the idea and the final building. The great value of this book is to reveal the nature of the scale model and to unlock the tremendous potential of this design tool as a thinking and communicative advice. His chronological analysis goes on from Egypt through Rome to the relationship between the Greek paradigm scale model and then on to Medieval and Renaissance models. It concludes with the models of the Spanish architect Antonio Gaudi, the Russian Constructivists, the American architect Louis Khan and finally looks at the role of scale models in the present day through the work of the Polish/American architect Daniel Libeskind and the American Frank Gehry.

For architectural educators, models are not only as near to a realised building as one can get but for their students they are the means by which architecture itself, its processes, concepts, strategies and tactics are learned. This book describes the environment of architectural models in an educational context.

"Architectural drawings and models are instruments of imagination, communication, and historical continuity. The role of drawings and models, their ownership, placement, and authorship in a ubiquitous digital age deserves careful consideration. Expanding on the well-established discussion of the translation from drawings to buildings, this book fills a lacuna in current scholarly publications, questioning the significance of the lives of drawings and models after construction. Including emerging, well-known and world-renowned scholars in the fields of architectural history and theory and curatorial practices, the 35 contributions define recent research in four key areas: Drawing Sites/Sites of Knowledge Construction: Drawing, Office, Construction Site; The Afterlife of Drawings and Models: Archiving, Collecting, Displaying and Exhibiting; Tools of Making: Architectural Representations and their Apparatus Over Time; The Ethical Responsibilities of Collecting and Archiving: Authorship, Ownership, Copyrights, and Rights to Copy. The research covers a wide range of geographies and delves into the practices of such architects as Sir John Soane, Superstudio, Viollet-le-Duc, Frank Lloyd Wright, Wajiro Kon, Germán Samper Gnecco, A+PS, Mies van der Rohe and Renzo Piano"--

The Art of the Architectural Model

The Architect and the Model

Great Models

30 Jahre Architekturmodelle /30 Years of Architectural Models

Modelling Messages

Western Architect and Engineer

Exploring the fascinating material and miniature world of architectural scale models, this guide reviews the carefully crafted replicas of landmark works of both Finnish and international 20th century architecture, telling not only of the importance of the schemes but also of the rich tradition of craftsmanship.

Despite the advent of digital visualization software, the non-digital or analog scale model remains a centerpiece of design education, certain celebrated practices and architecture's public relations. Indeed, model manufacture has only become more pervasive since the development of laser cutting and rapid prototyping devices. Why? The physical model remains the most accessible form of architectural communication. As opposed to blueprints or computer renderings, clients and the general public seem to immediately understand the model. Many practitioners use finished models for presentations, competitions and exhibitions. Others use sketch models as a quick, economic and flexible generative tools. This diversity of use leads architects to consider their application. It is only with the rise of the virtual that the advantages and disadvantages of more traditional models can be fully evaluated. This is a turning point for practitioners and educators to understand the multiplicity of model types and functions in an effort to strategically deploy the right sort of model at the appropriate stage in the design process.

SERIES: Architecture in Practice

"Author Karen Moon identifies two principal types of models: those made for the relatively private functions of design and exchange of ideas and those prepared for the typically more public purposes of communication and presentation. Grounded in a discussion of historic models - Michelangelo's massive wooden models of Renaissance churches, Sir John Soane's beautifully crafted replicas of the Bank of England, Kasimir Malevich's Suprematist Architektons of the early twentieth century - the author's text draws as well on her extensive interviews with architects and modelmakers. Illustrations include rare archival images along with spectacular and creative models from noted international architects."--BOOK JACKET.

design, representation and manufacturing

Model Making

An Alphabet of Architectural Models

A Manual for Model Home Construction

Design for Eternity

Applying Particle Image Velocimetry and Scaling Methods to Better Visualize Flows in Architectural Scale Models

Based on the recent discovery of his fully-preserved private archive-models, photos, letters, business files, and drawings-this book tells the story of Theodore Conrad (1910-1994), the most prominent and prolific architectural model-maker of the 20th century. Conrad's innovative models were instrumental in the design and realization of many icons of American Modernism-from the Rockefeller Center to Lever House and the Seagram Building. He revolutionized the production of architectural models and became a model-making entrepreneur in his own right. Yet, despite his success and the well-known buildings he helped to create, until now little has been known about Conrad's work and his impact on 20th century architectural history. With exclusive access to Conrad's archive, as well as that of model photographer Louis Checkman-both of which have lain undiscovered in private storage for decades-this book examines Conrad's work and legacy, accompanied by case studies of his major commissions and full-color photographs of his works. Set against the backdrop of the surge in model-making in the 1950s and 1960s-which Jane Jacobs called "The Miniature Boom"-it explores how Conrad's models prompt broader scholarly questions about the nature of authorship in architecture, the importance of craftsmanship, and about the translation of architectural ideas between different media. The book ultimately presents an alternative history of American modern architecture, highlighting the often-overlooked influence of architectural models and their makers.

For thousands of years, architects have used models to invent, experiment and communicate. A world in miniature, such models are even more varied in their purposes and materials than their full-scale counterparts. This beautifully designed book explores the uniquely fascinating nature of the architectural model through 26 illustrated essays, one for each letter of the alphabet - from A for 'Ancient' (on the world's oldest models) to Z for 'Zoom' (on the photography of models). Unbound by the practicalities of life-size construction, models allow architects the flexibility and freedom to think in three dimensions. Whether made for purely speculative exercises or to solve a specific problem, they are aids to the imagination. Equally, they can be used as detailed and accurate representations of particular places (either built or as yet unrealized) in order to convey information to patrons or the public. Models can be made in a wide variety of media, from paper, cork and wood to such ephemeral materials as sugar and jelly. Most recently, the advent of digital technologies has transformed possibilities for prototyping, which in turn has greatly influenced architectural design. Models also have a vibrant life beyond the design process. Souvenir models collected on the Grand Tour, 1:1 scale plaster models of architectural fragments displayed in museums, and architectural toys that have delighted children and adults alike are just some of their manifestations outside the architect's office. Written by architects, model-makers, curators, conservators and scholars, the texts in this absorbing Alphabet explore such varied but fundamental issues as modelling materials and techniques, scale, and the role of the model in the design process. They also go beyond conventional accounts to look at models under the X-ray machine, their use in film, and edible models. The result is a wide-ranging, insightful and original account of the multiple lives of the architectural model.

Models make it possible to visualize an idea in three dimensions. Designing with models and presenting ideas is an important step in the development of a consciousness of design. Themes: Levels of abstraction and degrees of detail Model typologies Typical working tools and techniques Materiality of models Presentation possibilities

tool, fetish, small utopia

Origami Architecture Kit

Digressions on the Architectural Model

Architecture and the Miniature

Basics Modelbuilding

This book is the result of pioneering research work at the Deutsches Architekturmuseum (DAM, German Museum of Architecture) in Frankfurt-on-the-Main. Investigated is the architectural model as distinct means and method of creating and presenting architec

Virtual Aesthetics in Architecture: Designing in Mixed Realities presents a curated selection of projects and texts contributed by leading international architects and designers who are using virtual reality technologies in their design process. It triggers discussion and debate on exploring the aesthetic potential and establishing its language as an expressive medium in architectural design.

Although virtual reality is not new and the technology has evolved rapidly, the aesthetic potential of the medium is still emerging and there is a great deal more to explore. The book provides a comprehensive overview of the current use of virtual reality technologies in the architectural design process. Contributions are presented in six parts, fully illustrated with over 150 images. Recent projects presented are distributed in five themes: introduction to mixed realities; space and form; context and ambiguity; materiality and movement; body and social. Each theme includes richly illustrated essays by leading academics and practitioners, including those from Zaha Hadid Architects and MVRDV, detailing their design process using data-driven methodologies. Virtual Aesthetics in Architecture expands the use of technology per se and focuses on how architecture can benefit from its aesthetic potential during the design process. A must-read for practitioners, academics, and students interested in cutting-edge digital design.

Making Small Scale Models is for those who have never made a model before or want to develop or increase their skills. From cutting a straight line to making a scaled human figure that 'lives', through to creating beautifully detailed buildings and finely detailed furniture, the book takes you through each stage of the process. Topics covered include methods for a wide range of disciplines, from theatre design to railway modelling to interior design; a practical guide to tools and materials; basic techniques for constructing scale models using simple, readily available materials; step-by-step guides to projects designed to practise and develop skills; and advanced ideas focus on colour, texture and form to bring models to life. Superbly illustrated with 111 colour photographs.

Tools, Techniques & Materials

Architectural Models in the 21st Century

Architect and Engineer

Architectural model

Techniques and Materials for Construction of Architectural Scale Models

Friedrich Kiesler

Model making is a beautiful and skilful craft, and architectural model making is a vital part of the building process. The architectural model is often the first time that a building is visualized in 3D. It can capture the excitement of the architect's vision but can also reveal unforeseen difficulties. Model Making for Architects explains the role of the model within the architectural and planning process. It advises on the many ways of representing a building and the many techniques of making a model. With practical instruction throughout, it is an invaluable tool both for the model maker and for the architect seeking to commission a model of their building. With contributions from leading practitioners, case studies on multi-million pound projects and step-by-step exercises, this new book provides a unique insight into the process of architectural model making, and looks at the new technology and opportunities available to the model maker. What and who is an architectural model for? What type of model should be used, and when? What scale is most appropriate? These questions are answered in this new book which provides a unique insight into the process of architectural model making. Illustrated with examples of top models of multi-million pound projects. Will be invaluable for architectural model makers, architects, surveyors and interior designers. Superbly illustrated with 227 colour photographs. Matt Driscoll is the founding director of Base Models, reknowned for creating beautiful, yet practical architectural models.

Bridges traditional and contemporary methods of creating architectural design drawings and 3D models through digital tools and computational processes. Drawing from the Model: Fundamentals of Digital Drawing, 3D Modeling, and Visual Programming in Architectural Design presents architectural design students, educators, and professionals with a broad overview of traditional and contemporary architectural representation methods. The book offers insights into developments in computing in relation to architectural drawing and modeling, by addressing historical analog methods of architectural drawing based on descriptive geometry and projection, and transitioning to contemporary digital methods based on computational processes and emerging technologies. Drawing from the Model offers digital tools, techniques, and workflows for producing architectural design drawings (plans, sections, elevations, axonometrics, and perspectives), using contemporary 2D drawing and 3D modeling design software. Visual programming is introduced to address topics of parametric modeling, algorithmic design, computational simulations, physical computing, and robotics. The book focuses on digital design software used in higher education and industry, including Robert McNeel & Associates Rhinoceros® (Rhino 6 for Windows), Grasshopper®, Adobe Illustrator® CC, and Arduino, and features an appendix filled with 10 design drawing and 3D modeling exercises intended as educational and pedagogical examples for readers to practice and/or teach workflows that are addresses in the book. Bridges analog hand-drawing and digital design drawing techniques Provides comprehensive coverage of architectural representation, computing, computer-aided drafting, and 3D modeling tools, techniques, and workflows, for contemporary architectural design drawing aesthetics and graphics. Introduces topics of parametric modeling, algorithmic design, computational simulation, physical computing, and robotics through visual programming environments and processes. Features tutorial-based instruction using the latest versions of Rhinoceros® (Rhino 6 for Windows), Grasshopper®, Adobe Illustrator® CC, and Arduino.

In light of current developments in modelling, and with the aim of reinvigorating debates around the potentiality of the architectural model – its philosophies, technologies and futures – this issue of AD examines how the model has developed to become an immersive worldbuilding machine. Worldbuilding is the creation of imaginary worlds through forms of cultural production.

Although this discourse began with an analysis of imaginary places constructed in works of literature, it has evolved to encompass worlds from fields such as cinema, games, design, landscape, urbanism and architecture. Worldbuilding differs from the notion of worldmaking, which deals with how speculative thinking can influence the construction of the phenomenal world. As architects postulate ever-increasingly complex world models from which to draw inspiration and inform their practice, questions of scale, representation and collaboration emerge. Discussed through a range of articles from acclaimed international contributors in the fields of both architecture and media studies, this issue explores how the architectural model is situated between concepts of worldbuilding and worldmaking – in the creative space of worldmodelling. Contributors: Kathy Battista, Thea Brejzek and Lawrence Wallen, Pascal Bronner and Thomas Hillier, Mark Cousins, James A Craig and Matt Ozga-Lawn, Kate Davies, Ryan Dillon, Christian Hubert, Chad Randl, Theodore Spyropoulos, and Mark JP Wolf. Featured architects: Phil Ayres, FleaFolly Architects, Minimaforms, and Stasus.

The Architectural Models of Theodore Conrad

Drawing from the Model

Das Architekturmodell

Model Concepts, Inc., Architectural Scale Models

Werkzeug, Fetisch, kleine Utopie ; [anlässlich der Ausstellung Das Architekturmodell - Werkzeug, Fetisch, Kleine Utopie, 25. Mai bis 16. September 2012, Deutsches Architekturmuseum, Dezernat für Kultur und Wissenschaft, Stadt Frankfurt am Main]

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