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NICKOLAS GARNER

eWork and eBusiness in Architecture, Engineering and Construction Springer

This beautiful origami art book is a collection of the best contemporary pieces from some of the worlds most renowned papercraft artists. Thanks to pioneering masters such as Dr. Robert J. Lang, origami has transcended its humble roots as a traditional Japanese papercraft to take its place among the global fine arts. In *Folding Paper: The Infinite Possibilities of Origami*, Dr. Lang and Asian art curator Meher McArthur chronicle origami's remarkable evolution and showcases the widespread applications of paper folding solutions in the fields of contemporary mathematics, engineering, design, and the international peace movement. Based around a groundbreaking museum show by the same name, *Folding Paper* features the work of more than forty leading origami artists from around the world. It traces the development of paper folding in both the East and the West, recognizing the global influences on this international art form. Now in the early twenty-first century, origami is a sophisticated fine art form consisting of many different styles, from representational to geometric, abstract, and even conceptual. It has become a symbol of peace, an inspiration for engineers, and a conduit for scientific advancement. Featured origami artists include: Brian Chan Erik Joisel Erik and Martin Demaine Tomoko Fuse Daniel Kwan Michael LaFosse Jeannine Moseley Akira Yoshizawa Combining Dr. Lang's and McArthur's illuminating narrative history with lavish color photographs of more than sixty breathtaking works—from Joel Cooper's haunting Cyrus mask to Linda Tomoko Mihara's delicate Crane Cube to Eric Joisel's lifelike Pangolin model—*Folding Paper* is an enthralling introduction to the contemporary art of paper folding.

Computer-Aided Architectural Design. "Hello, Culture" CRC Press

Origami 6 is a unique collection of papers illustrating the connections between origami and a wide range of fields. The papers compiled in this two-part set were presented at the 6th International Meeting on Origami Science, Mathematics and Education (10–13 August 2014, Tokyo, Japan). They display the creative melding of origami (or, more broadly, folding) with fields ranging from cell biology to space exploration, from education to kinematics, from abstract mathematical laws to the artistic and aesthetics of sculptural design. This two-part book contains papers accessible to a wide audience, including those interested in art, design, history, and education and researchers interested in the connections between origami and science, technology, engineering, and mathematics. Part 2 focuses on the connections of origami to education and more applied areas of science: engineering, physics, architecture, industrial design, and other artistic fields that go well beyond the usual folded paper.

The Geometry of Environment Cambridge Scholars Publishing

With just a little skill in cutting and folding, you can make perfect miniature paper replicas of great architecture - small enough to fit into an envelope as a greetings card, beautiful enough to put on display. *Architectural Origami* offers easy-to-use templates for 15 structures, from the Taj Mahal to the Rialto Bridge, all demonstrated by leading architectural origami artists. There are basic principles to start you off and advanced guidance on designing buildings of your own, plus detailed architectural narratives and graphics describing the original buildings. A craft knife, pencil, a ruler and a cutting board are all you need to undertake this intriguing craft. You'll find it as absorbing as drawing and as reflective as origami. When you've absorbed all the basic principles and tried your hand at all the buildings in the book, you'll find that you've learned enough to start you off on designing origami architecture of your own. About the authors Maria Victoria Garrido Bianchini is an origamic architecture designer with a degree in Architecture and Urbanism, whose work has been exhibited in New York. Ingrid Siliakus has been an origamic architecture designer/artist for over ten years. Her work has been displayed in exhibitions all over the world.

Transmaterial Tuttle Publishing

Structures that move in the course of normal use, or which have to be assembled or erected rapidly on a relatively unprepared site, offer a particular challenge to the designer. The interaction between

the structure and the mechanism by which it moves is essential in these cases. The speed of assembly, what this means in terms of logistics, materials and cost, is a major factor in many such structures. Mobile and rapidly assembled structures play a major role in disaster mitigation and temporary accommodation. They are of primary importance in many military as well as civilian applications and are widely used for rescue and maintenance services. Their importance continues to grow in contemporary society where speed of response is of primary importance. Also, in many cases, their reversible deployment and potential reuse can lead to a lower economical and/or ecological impact, providing a more sustainable solution. There are common problems such as the efficient design of assembly joints, the resistance to damage of the membrane and metal cladding, crashworthiness and the limits of serviceability. Some areas of the subject are already well documented, but knowledge is fragmented and there is little design guidance available in the form of textbooks, data sheets or codes of practice. The interaction between morphology, kinematic behaviour and structural performance - typical for these structures - poses real challenges in terms of design and successful realisation. This multi-disciplinary proceedings volume contains papers presented at the fourth International Conference on Mobile, Adaptable and Rapidly Assembled Structures. Topics covered include: Rapidly erected bridges and transportable bridges; Disaster mitigation structures; Temporary structures and dwellings; Deployable systems and structural mechanisms; Tensegrity and reciprocal frames; Origami-based structures; Inflated and air-supported structures and membrane shelters; Rapidly assembled kit-of-parts systems; Leisure structures, demountable grandstands and scaffolding systems; Mobile inspection platforms; Folding and telescopic masts and gangways; Tower cranes and mobile lifting apparatus; Trackways and prefabricated paving for roads and airfields; Protective structures; Rapid repairs of structures; Structures in adverse conditions; Spacecraft structures; Construction and repair.

Folding Paper Springer

This new edition of *Six Simple Twists: The Pleat Pattern Approach to Origami Tessellation Design* introduces an innovative pleat pattern technique for origami designs that is easily accessible to anyone who enjoys the geometry of paper. The book begins with six basic forms meant to ease the reader into the style, and then systematically scaffolds the instructions to build a strong understanding of the techniques, leading to instructions on a limitless number of patterns. It then describes a process of designing additional building blocks. At the end, what emerges is a fascinating artform that will enrich folders for many years. Unlike standard, project-based origami books, *Six Simple Twists* focuses on how to design, rather than construct. In this thoroughly updated second edition, the book explores new techniques and example tessellations, with full-page images, and mathematical analysis of the patterns. A reader will, through practice, gain the ability to create still more complex and fascinating designs. Key Features Introduces the reader to origami tessellations and demonstrates their place in the origami community New layout and instructional approach restructure the book from the ground up Addresses common tessellation questions, such as what types of paper are best to use, and how this artform rose in popularity Teaches the reader how to grid a sheet of paper and the importance of the pre-creases Gives the reader the ability to create and understand tessellations through scaffolded instruction Includes exercises to test understanding Introduces a new notation system for precisely describing pleat intersections Analyzes pleat intersections mathematically using geometrically-focused models, including information about Brocard points

The shape of the folded surfaces Princeton Architectural Press

Paper is readily available and inexpensive in comparison to other sculptural media, and can be manipulated with a set of simple tools. It is a tactile medium, which can be formed into three-dimensional shapes quickly and immediately through folding and cutting. This hands-on element is something I feel is important -- it allows the artist to engage immediately with the material, resulting in something physical and tangible. It is, perhaps, these factors that make it so appealing, not only as a tool to apply in different fields, such as model making for architecture, but as an activity for its own sake. A section of this book is dedicated to a selection of the techniques I use in the creation of

my work, and which I demonstrate in my workshops. My aim is to show the basic principles of form-making in paper, which can then be expanded on and explored as the reader wishes. Also included are my sources of inspiration and details of my working practice, which shows the evolution of an initial idea into a final artwork. I hope this book offers an insight into my work, while offering inspiration to those who wish to explore the creative potential of paper.

ARUP's Complete Storefront Laurence King Publishing

Furnishes detailed instructions, removable templates with color-coded fold lines, patterns, and step-by-step photographs to help readers create twenty origami replicas of world-famous buildings, including the Taj Mahal, Eiffel Tower, and the Coliseum, along with colorful trivia, architectural details, and original floor plans for each building. 12,500 first printing.

Folding Techniques for Designers Springer

Many designers use folding techniques in their work to make three-dimensional forms from two-dimensional sheets of fabric, cardboard, plastic, metal, and many other materials. This unique book explains the key techniques of folding, such as pleated surfaces, curved folding, and crumpling. It has applications for architects, product designers, and jewelry and fashion designers. An elegant, practical handbook, *Folding for Designers* explains over 70 techniques explained with clear step-by-step drawings, crease pattern drawings, and specially commissioned photography. All crease pattern drawings are available to view and download from the Laurence King website.

The Infinite Possibilities of Origami: Featuring Origami Art from Some of the World's Best Contemporary Papercraft Artists CRC Press

The connections between origami, mathematics, science, technology, and education have been a topic of considerable interest now for several decades. While many individuals have happened upon discrete connections among these fields during the twentieth century, the field really took off when previously isolated individuals began to make stronger connections with each other through a series of conferences exploring the links between origami and "the outside world." The Fourth International Meeting on Origami in Science, Mathematics, and Education (4OSME), held in September, 2006, at the California Institute of Technology in Pasadena, California, brought together an unprecedented number of researchers presenting on topics ranging from mathematics, to technology, to educational uses of origami, to fine art, and to computer programs for the design of origami. Selected papers based on talks presented at that conference make up the book you hold in your hands.

The Six Steps to Business Innovation by Building on the Ideas of Others Springer Nature

Space probes, self-assembling robots, crash-absorbing cars, and designer proteins all have one thing in common: their use of folding technologies. To develop these technologies, engineers are taking inspiration from an unusual source—origami, the ancient art of paper folding. Examine origami's origins, how it intersects with mathematics, and how it became a tool to solve some of the most complicated challenges in engineering, architecture, technology, and medicine today. Plus, get a close-up look at these technologies with two augmented reality images included in the book!

Computational Modelling of Concrete Structures A K PETERS

Geometry lies at the core of the architectural design process. It is omnipresent, from the initial determination of form to the final construction. Modern geometric computing provides a variety of tools for the efficient design, analysis, and manufacturing of complex shapes. On the one hand this opens up new horizons for architecture. On the other, the architectural context also poses new problems for geometry. The research area of architectural geometry, situated at the border of applied geometry and architecture, is emerging to address these problems. This volume, presenting the papers accepted at the 2010 Advances in Architectural Geometry conference in Vienna, reflects the substantial progress made in this field. The interdisciplinary nature of architectural geometry is reflected in the diversity of backgrounds of the contributing authors. Renowned architects, engineers, mathematicians, and computer scientists present novel research ideas and cutting-edge solutions at the interface of geometry processing and architectural design.

Proceedings of the Sixth International Meeting on Origami Science, Mathematics, and Education.

Technology, art, education. II Gingko Press Inc

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An Introduction to Spatial Organization in Design Cambridge University Press

In a book poised to become the bible of innovation, a renowned creativity expert reveals the key to the creative process—"borrowing". As a former aerospace scientist, Fortune 500 executive, chief

innovation officer, inventor, and software entrepreneur, David Kord Murray has made a living by coming up with innovative ideas. In *Borrowing Brilliance* he shows readers how new ideas are merely the combination of existing ones by presenting a simple six-step process that anyone can use to build business innovation: ?Defining-Define the problem you're trying to solve. ?Borrowing-Borrow ideas from places with a similar problem. ?Combining-Connect and combine these borrowed ideas. ?Incubating-Allow the combinations to incubate into a solution. ?Judging-Identify the strength and weakness of the solution. ?Enhancing-Eliminate weak points while enhancing strong ones. Each chapter features real-life examples of brilliant borrowers, including profiles of Larry Page and Sergey Brin (the Google guys), George Lucas, Steve Jobs, and other creative thinkers. Murray used these methods to re-create his own career and he shows readers how to harness them to find creative solutions.

The Genesis and Characteristics of Leading Trends CRC Press

Deployable structures can expand and contract due to their geometrical, material and mechanical properties – offering the potential to create truly transforming environments. This book looks at the cutting edge of the subject, examining the different types of deployable structures and numerous design approaches. Filled with photographs, models, drawings and diagrams, *Deployable Structures* is packed with inspirational ideas for architecture students and practitioners.

Create Models of the World's Great Buildings Kodansha America

Origami structures have the ability to be easily fabricated from planar forms, enable the deployment of large structures from small volumes, and are potentially reconfigurable. These characteristics have led to an increased interest in theoretical and computational origami among engineers from across the world. In this book, the principles of origami, active materials, and solid mechanics are combined to present a full theory for origami structures. The focus is on origami structures morphed via active material actuation and formed from sheets of finite thickness. The detailed theoretical derivations and examples make this an ideal book for engineers and advanced students who aim to use origami principles to develop new applications in their field.

Active Origami Laurence King Publishing

Paul Jackson's major new title *Complete Pleats* is the most comprehensive book about pleating on the market. It explains how pleating systems can be stretched, compressed, flared, skewed, multiplied, and mirrored, showing how from simple ideas, a huge number of original pleat forms can be created. Each technique is explained with a series of step-by-step photographs and line illustrations, enabling the designer to work through the basic principles of pleating and then adapt them to their specific needs. *Complete Pleats* also features more than 60 examples of pleats from the worlds of architecture, fashion, and product design. Paul Jackson has taught pleating techniques to students of Fashion Design for 30 years, in both paper and fabric. *Complete Pleats* is the definitive practical guide for anyone wishing to create and make pleats. The book includes a DVD featuring 23 videos of pleating techniques.

Urban Origami Clarkson Potter

The book contains papers from the proceedings of the 3rd International Meeting of Origami Science, Math, and Education, sponsored by OrigamiUSA. They cover topics ranging from the mathematics of origami using polygon constructions and geometric projections, applications, and science of origami, and the use of origami in education.

The Pleat Pattern Approach to Origami Tessellation Design Springer

All Things Paper 20 Unique Projects from Leading Paper Crafters, Artists, and Designers Tuttle Publishing

Drawing control and analysis Tuttle Publishing

New materials are reshaping the world and this reference manual has details on the most interesting and useful new materials now available. Featuring more than 200 materials, this is an essential tool for keeping up with rapid developments in the field or as a source of inspiration for designs.

Schiffer Publishing

This book connects the different topics and professions involved in information technology approaches to architectural design, ranging from computer-aided design, building information modeling and programming to simulation, digital representation, augmented and virtual reality, digital fabrication and physical computation. The contributions include experts' academic and practical experiences and findings in research and advanced applications, covering the fields of architecture, engineering, design and mathematics. What are the conditions, constraints and opportunities of this digital revolution for architecture? How do processes change and influence the result? What does it mean for the collaboration and roles of the partners involved. And last but not least: how does academia reflect and shape this development and what does the future hold? Following the sequence of architectural production - from design to fabrication and construction up to the operation of buildings - the book discusses the impact of computational methods and technologies and its consequences for the education of future architects and designers. It offers detailed insights into the processes involved and considers them in the context of our technical, historical, social and cultural environment. Intended mainly for academic researchers, the book is also of interest to master's level students.

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