

Elementary Structures For Architects And Builder

An engaging introduction to buildings, with a deft mix of nonfiction and fiction elements.

Intended principally for use by students of architecture, this book provides information required for making sensible choices on the structural aspects of architectural design.

Since its first publication in 1974, Principles of Structure has established itself at the forefront of introductory texts for students of architecture, building and project management seeking a basic understanding of the behavior and design of building structures. It provides a simple quantitative introduction to structural engineering, while also drawing connections to real buildings that are more complex. Retaining the style and format of earlier editions, this Fifth Edition brings the text and examples into alignment with international practice. It also features six new buildings from around the world, illustrating the principles described in the text. The book begins with a chapter explaining forces and their effects. Other chapters cover ties and struts, loadings, graphical statics, bracings, shears and moments, stresses, deflections, and beam design. There is also an appendix with a fuller explanation of fundamentals for readers unfamiliar with the basic concepts of geometry and statics. The book offers a unique format with right-hand pages containing text and left-hand pages containing complementary commentary including explanations and expansions of points made in the text and worked examples. This cross-referencing gives readers a range of perspectives and a deeper understanding of each topic. The simple mathematical approach and logical progression—along with the hints and suggestions, worked examples and problem sheets—give beginners straightforward access to elementary structural engineering.

A hilarious, irreverent book about doing your own thing Meet Iggy Peck—creative, independent, and not afraid to express himself! In the spirit of David Shannon’s No, David and Rosemary Wells’s Noisy Nora, Iggy Peck will delight readers looking for irreverent, inspired fun. Iggy has one passion: building. His parents are proud of his fabulous creations, though they’re sometimes surprised by his materials—who could forget the tower he built of dirty diapers? When his second-grade teacher declares her dislike of architecture, Iggy faces a challenge. He loves building too much to give it up! With Andrea Beaty’s irresistible rhyming text and David Roberts’s puckish illustrations, this book will charm creative kids everywhere, and amuse their sometimes bewildered parents. Also from the powerhouse author-illustrator team of Iggy Peck, Architect, is Rosie Revere, Engineer, a charming, witty picture book about believing in yourself and pursuing your passion. Ada Twist, Scientist, the companion picture book featuring the next kid from Iggy Peck’s class, is available in September 2016.

All the Details Architects Need to Know But Can Never Find

Architecture for Teens

Basic Structures

The Professional Practice of Architectural Working Drawings

Heroic

A Portrait of Architect Zaha Hadid

Published in 1933, *Toward an Architecture* had an immediate impact on architects throughout Europe and remains a foundational text for students and professionals. This edition includes a new translation of the original text, a scholarly introduction, and background notes that illuminate the text and illustrations.

Now in its second edition: the trailblazing introduction and textbook on construction includes a new section on translucent materials and an article on the use of glass.

With more than 20,000 words and terms individually defined, the Dictionary offers huge coverage for anyone studying or working in architecture, construction or any of the built environment fields. The innovative and detailed cross-referencing system allows readers to track down elusive definitions from general subject headings. Starting from only the vaguest idea of the word required, a reader can quickly track down precisely the term they are looking for. The book is illustrated with stunning drawings that provide a visual as well as a textual definition of both key concepts and subtle differences in meaning. Davies and Jokiniemi’s work sets a new standard for reference books for all those interested in the buildings that surround us. To browse the book and to see how this title is an invaluable resource for both students and professionals alike, visit www.architectsdictionary.com.

Owners of old houses are often baffled by the confusing advice they receive from their builders, architects or surveyors who may be more familiar with repairing modern buildings than dealing with the issues associated with traditional houses. Old houses generally require a different approach, one, for instance, which takes account of their need to ‘breathe’. Modern solutions do not always recognise that need. This book will help owners, builders and all construction professionals make the decisions that are right for old buildings. It illustrates the long term benefits of using more traditional solutions on older houses rather than modern materials like cement based mortars, sealants or impervious paints. It offers practical guidance on: How to get the right professional advice; Legal requirements for listed buildings; Problems with damp and rot; Use of lime mortars, plasters and renders; Why old buildings need to breathe; Planning applications; and, Trees, outbuildings and gardens.

Structures & Architecture

Elementary Structural Analysis and Design of Buildings

Form, Space, and Order

The Strength of Architecture

Exercises in Building Construction

Architecture

'Structure and Architecture' is an essential textbook for students and practitioners of architecture and structural engineering. MacDonald explains the basic principles of structure and describes the ranges of structure types in current use. Furthermore, the book links these topics directly with the activity of architectural design and criticism. An update of the first edition, 'Structure and Architecture 2ed' includes a revised opening chapter, and a new section that discusses prominent buildings constructed since the last edition was published in 1994. Angus MacDonald deals with structures holistically, relating detailed topics back to the whole structure and building. He aims to answer the questions: What are architectural structures? How does one define the difference between the structure of a building and all of the other components and elements of which it consists? What are the requirements of structures? What is involved in their design? An understanding of the concepts involved in answering these questions and an appreciation of a building functions enhances the ability of an individual to appreciate its architectural quality. This book is unique in that it discusses the structural component of architectural design in the context of visual and stylistic issues.

I am very much aware that it is an act of extreme rashness to attempt to write an elementary book about structures. Indeed it is only when the subject is stripped of its mathematics that one begins to realize how difficult it is to pin down and describe those structural concepts which are often called 'elementary'; by which I suppose we mean 'basic' or 'fundamental'. Some of the omis sions and oversimplifications are intentional but no doubt some of them are due to my own brute ignorance and lack of under standing of the subject. Although this volume is more or less a sequel to The New Science of Strong Materials it can be read as an entirely separate book in its own right. For this reason a certain amount of repetition has been unavoidable in the earlier chapters; I have to thank a great many people for factual information, suggestions and for stimulating and sometimes heated discussions. Among the living, my colleagues at Reading University have been generous with help, notably Professor W. D. Biggs (Professor of Building Technology), Dr Richard Chaplin, Dr Giorgio Jeronimidis, Dr Julian Vincent and Dr Henry Blyth; Professor Anthony Flew, Professor of Philosophy, made useful suggestions about the last chapter. I am also grateful to Mr John Bartlett, Consultant Neurosurgeon at the Brook Hospital, Professor T. P. Hughes of the University of the West Indies has been helpful about rockets and many other things besides. My secretary, Mrs Jean Collins, was a great help in times of trouble. Mrs Nethercot of Vogue was kind to me about dressmaking. Mr Gerald Leach and also many of the editorial staff of Penguins have exercised their accustomed patience and helpfulness. Among the dead, I owe a great deal to Dr Mark Pryor - lately of Trinity College, Cambridge - especially for discussions about biomechanics which extended over a period of nearly thirty years. Lastly, for reasons which must surely be obvious, I owe a humble oblation to Herodotus, once a citizen of Halicarnassus.

This book contains a unique collection of various perspectives on the relationship between structures and the forms and spaces of architecture. As such it provides students and professionals alike with an essential sourcebook that can be mined for visual inspiration as well as for textually rich and authoritative insight into the links between structure, architecture, and cultural context. The chapters address fundamental structural elements and systems: columns, walls, beams, trusses, frames, tensile structures, arches, domes and shells. Each chapter is subdivided into two parts:
• The essays - introduce the chapters with the reprinting of a curated set of essays and excerpts by various authors that uniquely address how particular structural elements or systems relate in essential fashion to architectural design concepts.
• The model studies - physical models of the overall structural systems of several notable contemporary buildings from Europe, North and South America, Africa and Asia are illustrated with large photographs, detail close-ups, and views of their external forms and internal spaces that establish the exceptional qualities of these projects in connecting structural form to architectural design objectives. Mosaic layouts complete the chapters with a collection of photographs of yet more models whose particular details and unique features serve to extend the visual repertoire of the structural type being considered. The combination, juxtaposition and mutual positive reinforcement of these two collections, one largely textual and the other image based, provides the reader with unique and multifaceted insights into how structural forms and systems can be related to architectural design intentions. Conveyed by a strong and deliberate graphical design format, this assembly of materials gets to the very essence of structures within the context of architecture, and will inspire students and practitioners alike to make strategic design decisions for their own projects.

"Did you know the natural world is a construction zone? Amazing animals all over the world are building all kinds of structures every single day. This fascinating, fact-filled book will captivate young scientists and naturalists and have them looking out for animal construction projects happening in their own backyards!"--

Structures and Architecture - Bridging the Gap and Crossing Borders

A Beginner's Book for Aspiring Architects

Toward an Architecture

Constructing Architecture

Proceedings of the Fourth International Conference on Structures and Architecture (ICSA 2019), July 24-26, 2019, Lisbon, Portugal

Structural Design Against Deflection

This overview of the analysis and design of buildings runs from basic principles and elementary structural analysis to the selection of structural systems and materials, and on to foundations and retaining structures. It presents a variety of approaches and methodologies while featuring realistic design examples. As a comprehensive guide and desk reference for practicing structural and civil engineers, and for engineering students, it draws on the author's teaching experience at The City College of New York and his work as a design engineer and architect. It is especially useful for those taking the National Council of Examiners for Engineering and Surveying SE exam.

A thorough introduction to the principles of architectural design furnishes a series of lessons that addresses such issues as modern landscape architecture, the development of "green" design, urban architecture, the engineering challenges confronting the builders of skyscrapers, and more, in an updated edition of the award-winning study, *Original*.

A practical introduction to architecture for aspiring teen architects Architecture is a fascinating, diverse field that blends technology, creativity, engineering, and even psychology. Discover the possibilities with this in-depth choice in architecture books for teens. Delve into the world of architecture, learn about recent innovations in sustainability and inclusivity, and uncover the details behind real architectural projects. Explore an overview of architectural movements and designers from prehistory to modern-day, and check out inspiring interviews with working professionals. With tons of practical advice for pursuing a career, you'll find out how you can become an architect and help build an environmentally responsible world from the ground up! Go beyond other architecture books for teens with: Architecture essentials—Get to know the five basic elements of architecture: structure, program, economics, aesthetics, and region. Creative career options—Learn what it means to work in residential or industrial architecture, specialize in historic preservation, create landscapes, innovate in urban planning, and more. Real-world examples—Go behind the scenes on real architectural projects with colorful illustrations, breakdowns of the design process, and thoughtful examinations of their impact. Learn all about the role of an architect with this comprehensive selection in architecture books for teens.

Although Architecture and Structural Engineering have both had their own historical development, their interaction has led to many fascinating and delightful structures over time. To bring this interaction to a higher level, there is the need to stimulate the inventive and creative design of architectural structures and to persuade architects and structural engineers to work together in this process, exploiting constructive principles and aesthetic and static values. Structures and architecture presents over 250 selected contributions and addresses all major aspects of structures and architecture, including comprehension of complex forms, computer and experimental methods, concrete and masonry structures, emerging technologies, glass structures, innovative architectural and structural design, lightweight and membrane structures, special structures, steel and composite structures, the borderline between architecture and structural engineering, the tectonic of new solutions, the use of new materials, timber structures, the history of the relationship between architects and structural engineers, among others. This book of abstracts and the searchable CD-ROM with full papers contain the contributions presented at the 1st International Conference on Structures and Architecture (ICSA2010). This event was organized by the School of Architecture of the University of Minho, Guimarães, Portugal (July 2010), to promote the synergy between both disciplines. The contributions on creative and scientific aspects in the conception and construction of structures, on advanced technologies and on complex architectural and structural applications represent a fine blend of scientific, technical and practical novelties in both fields. This set is intended for both researchers and practitioners, including architects, structural and construction engineers, builders and building consultants, constructors, material suppliers, product manufacturers and other experts and professionals involved in the design and realization of architectural, structural and infrastructural projects.

Beautiful Architecture

Animal Architects

A First Book of Structures

Iggy Peck, Architect

Why Buildings Stand Up

Materials, Processes, Structures

Get to know Zaha Hadid in this nonfiction picture book about the famed architect's life and her triumph over adversity from celebrated author-illustrator Jeanette Winter. Zaha Hadid grew up in Baghdad, Iraq, and dreamed of designing her own cities. After studying architecture in London, she opened her own studio and started designing buildings. But as a Muslim woman, Hadid faced many obstacles. Determined to succeed, she worked hard for many years, and achieved her goals—and now you can see the buildings Hadid has designed all over the world.

Basic Structures provides the student with a clear explanation of structural concepts, using many analogies and examples. Real examples and case studies show the concepts in use, and the book is well illustrated with full colour photographs and many line illustrations, giving the student a thorough grounding in the fundamentals and a 'feel' for the way buildings behave structurally. With many worked examples and tutorial questions, the book serves as an ideal introduction to the subject.

For courses in Structural Technology and Statics and Strength of Materials. A market leader, Elementary Structures for Architects and Builders, Fifth Edition provides an introduction to building structures and materials, covering essential topics in statics and mechanics of materials, and an introduction to structural analysis and design. Topics include structural properties of area, stress and strain, properties of structural materials, shear and moment, flexural and shearing stresses, deflection and indeterminate beams, beam design and framing, elastic buckling of columns and trusses. Ideal for today's visually oriented student, it offers over 600 illustrations and full-page architectural sketches to clarify text concepts. A comprehensive set of appendices and numerous examples makes it an excellent resource for students and professionals preparing for the architectural registration examination.

Deflections tend to have more significance in modern structures, especially those that are either taller, longer or have wider spans than earlier designs. It is also necessary to provide desirable distributions of internal forces in order to achieve effective, efficient and elegant structures. This book presents four structural concepts relating to deflections and internal forces in structures. It demonstrates a number of routes and physical measures together with their implementation for creating desirable distributions of internal forces and for designing structures against deflection. Hand calculation examples, with and without using the implementation measures, are provided to quantify the effectiveness and efficiency of the structural concepts. Practical examples, including several well-known structures, are considered qualitatively to illustrate the practical implementation of the structural concepts and show their structural rationale. The book is especially suitable for advanced undergraduate and graduate students studying civil engineering or architecture and should enhance the holistic comprehension of structural engineers and architects. Features Develops the concepts from their principles through to their implementation Provides worked examples in pairs and analyses real structures Especially suits final year undergraduate and graduate students in structural engineering Author Bio Dr. Tianjin Ji, CEng, FISTRuct, FHEA, is Reader in Structural Engineering at the University of Manchester, UK. He received the Award for Excellence in Structural Engineering Education from the Institution of Structural Engineers, UK, in 2014 and the Teaching Excellence Award from the University of Manchester in 2016. He is the primary author of Understanding and Using Structural Concepts, 2nd edition, also published by Taylor & Francis.

Fundamentals of Residential Construction

Building Reuse

Concrete Architecture and the New Boston

Visual Thinking Through Architectural Concepts

Matter as a CoDesigner of Living Structures

A superb visual reference to the principles of architecture Now including interactive CD-ROM! For more than thirty years, the beautifully illustrated Architecture: Form, Space, and Order has been the classic introduction to the basic vocabulary of architectural design. The updated Third Edition features expanded sections on circulation, light, views, and site context, along with new considerations of environmental factors, building codes, and contemporary examples of form, space, and order. This classic visual reference helps both students and practicing architects understand the basic vocabulary of architectural design by examining how form and space are ordered in the built environment.? Using his trademark meticulous drawing, Professor Ching shows the relationship between fundamental elements of architecture through the ages and across cultural boundaries. By looking at these seminal ideas, Architecture: Form, Space, and Order encourages the reader to look critically at the built environment and promotes a more evocative understanding of architecture. In addition to updates to content and many of the illustrations, this new edition includes a companion CD-ROM that brings the book's architectural concepts to life through three-dimensional models and animations created by Professor Ching.

This book sets out the conditions under which the need for a new approach to the production of architecture in the twenty-first century is established, where our homes and cities are facing increasing pressures from environmental challenges that are compromising our lives and well being. Vibrant architecture embodies a new kind of architectural design practice that explores how lively materials, or 'vibrant matter', may be incorporated into our buildings to confer on them some of the properties of living things, such as movement, growth, sensitivity and self-repair. The theoretical and practical implications of how this may occur are explored through the application of a new group of materials. Characteristically, these substances possess some of the properties of living systems but may not have the full status of being truly alive. They include forms of chemical artificial life such as 'dynamic droplets' or synthetically produced soils. As complex systems, they are able to communicate directly with the natural world using a shared language of chemistry and so, negotiate their continued survival in a restless world. Vibrant architecture may create new opportunities for architectural design practice that venture beyond top-down form-finding programs, by enabling architects to co-design in partnership with human and nonhuman collectives, which result from the production of post natural landscapes. Ultimately, vibrant architecture may operate as an ecological platform for human development that augments the liveliness of our planet, rather than diminishes it.

Often problematically labeled as "Brutalist" architecture, the concrete buildings that transformed Boston during 1960s and 1970s were conceived with progressive-minded intentions by some of the world's most influential designers, including Marcel Breuer, Le Corbusier, J. M. Pei, Henry Cobb, Araldo Cossutta, Gerhard Kallmann and Michael McKinnell, Paul Rudolph, Josep Lluis Sert, and The Architects Collaborative. As a worldwide phenomenon, building with concrete represents one of the major architectural movements of the postwar years, but in Boston it was deployed in more numerous and diverse civic, cultural, and academic projects than in any other major U.S. city. After decades of stagnation and corrupt leadership, public investment in Boston in the 1960s catalyzed enormous growth, resulting in a generation of bold buildings that shared a vocabulary of concrete modernism. The period from the 1960 arrival of Edward J. Logue as the powerful and often controversial director of the Boston Redevelopment Authority to the reopening of Quincy Market in 1976 saw Boston as an urban laboratory for the exploration of concrete structure and material qualities. What emerged was a vision for the city's widespread revitalization often referred to as the "New Boston." Today, when concrete buildings across the nation are in danger of insensitive renovation or demolition, Heroic presents the concrete structures that defined Boston during this remarkable period—from the well-known Boston City Hall, New England Aquarium, and cornerstones of the Massachusetts Institute of Technology and Harvard University) to the already lost (Mary Otis Stevens and Thomas F. McNulty's concrete Lincoln House and Studio; Sert, Jackson & Associates' Martin Luther King Jr. Elementary School)—with hundreds of images; essays by architectural historians Joan Ockman, Lizabeth Cohen, Keith N. Morgan, and Douglass Shand-Tucci; and interviews with a number of the architects themselves. The product of 8 years of research and advocacy, Heroic surveys the intentions and aspirations of this period and considers anew its legacies—both troubled and inspired.

ICSA 2010 - 1st International Conference on Structures & Architecture, July 21-23 July, 2010 in Guimaraes, Portugal

Structural Engineering for Architects

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Building Construction Drawing

Mathematical Excursions to the World's Great Buildings

Leading Thinkers Reveal the Hidden Beauty in Software Design

The surprising ways nature has influenced architecture. It may come as a surprise to learn that architects have found solutions to all kinds of design challenges in nature! Some have looked to nature to solve a structural problem, like creating an earthquake-proof bridge by mimicking the extremely long roots of a special type of grass. Others have turned to nature for artistic inspiration, designing buildings and bridges that evoke the movement of swimming fish or a bird in flight. When it comes to style and structure, nature and architecture make perfect partners! From cactuses to birds' wings, termite towers to honeycombs, inspiration for ingenious design is everywhere around us!

His mathematics helped build the world's most important buildings from early Egypt to the pyramids and the Parthenon to the Sydney Opera House and the Bilbao Guggenheim, this book takes readers on an eye-opening tour of the mathematics behind some of the world's most spectacular buildings. Beautifully illustrated, the book explores the milestones in elementary mathematics that underpin the understanding of these buildings and combines this with an in-depth look at their aesthetics, history, and structure. Whether using trigonometry and vectors to explain why Gothic arches are structurally superior to Roman arches, or showing how simple ruler and compass constructions can produce sophisticated architectural details, Alexander Hahn describes the points at which elementary mathematics and architecture intersect. Beginning in prehistoric times, Hahn proceeds to guide readers through the Greek, Roman, Islamic, Romanesque, Gothic, Renaissance, and modern styles. He explores the unique features of the Pantheon, the Hagia Sophia, the Great Mosque of Cordoba, the Duomo in Florence, Palladio's villas, and Saint Peter's Basilica, as well as the U.S. Capitol Building. Hahn celebrates the forms and structures of architecture made possible by mathematical achievements from Greek geometry, the Hindu-Arabic number system, two- and three-dimensional coordinate geometry, and calculus. Along the way, Hahn introduces groundbreaking architects, including Brunelleschi, Alberti, da Vinci, Bramante, Michelangelo, della Porta, Wren, Gaudi, Saarinen, Utzon, and Gehry. Rich in detail, this book takes readers on an expedition around the globe, providing a deeper understanding of the mathematical forces at play in the world's most elegant buildings.

Elementary Structures for Architects and BuildersPearson

Traces the development of architectural structure, ranging from the nomad's simple tent to the Sears Tower

Wild Buildings and Bridges

The Aspiring Architect

Look at That Building!

Model Perspectives: Structure, Architecture and Culture

Structure and Architecture

Structural Design for Architecture

Structures and Architecture – Bridging the Gap and Crossing Borders contains the lectures and papers presented at the Fourth International Conference on Structures and Architecture (ICSA2019) that was held in Lisbon, Portugal, in July 2019. It also contains a multimedia device with the full texts of the lectures presented at the conference, including the 5 keynote lectures, and almost 150 selected contributions. The contributions on creative and scientific aspects in the conception and construction of structures, scientific, technical and practical novelties in both fields. ICSA2019 covered all major aspects of structures and architecture, including: building envelopes/façades; comprehension of complex forms; computer and experimental methods; futuristic structures; concrete and masonry structures; educating architects and structural engineers; emerging technologies; glass structures; innovative architectural and structural design; lightweight and membrane structures; special structures; steel and composite structures; structural systems; the history of the relationship between architects and structural engineers; the tectonic of architectural solutions; the use of new materials; timber structures, among others. This set of book and multimedia device is intended for a global readership of researchers and practitioners, including architects, structural and construction engineers, builders and building consultants, constructors, material suppliers and product manufacturers, and other professionals involved in the design and realization of architectural, structural and infrastructural projects.

This book provides an understanding of the fundamental theories and practice behind the creation of architectural structures. It aids the development of an intuitive understanding of structural engineering, bringing together technical and design issues. The book is divided into four sections: 'Structures in nature' looks at structural principles found in natural objects. 'Theory' covers general structural theory as well as explaining the main forces in engineering. 'Structural prototypes' includes examples of modelmaking a range of examples from around the world – actual buildings that apply the theories and testing described in the previous sections. This accessible, informative text is illustrated with specially drawn diagrams, models, CAD visualizations, construction details and photographs of completed buildings. This book will give students and newly qualified architects a firm grasp of this essential topic.

In structural terms reciprocal frame structures are "three dimensional assemblies of mutually supporting beams". But behind this definition lie some breathtakingly beautiful and complex structures at the heart of buildings both ancient and modern. This new book explores the principles of these apparently simple structures and demonstrates how they can be used in the context of a modern building. Starting with historic designs by de Honnecourt, Da Vinci and Serlio, the book presents the wealth of possible RF morphing structures, look at stunning examples of reciprocal frame architecture that range from low environmental impact buildings and self built examples in the UK and USA, to the fascinating and elegant structures of the Puppet Theatre in Seiwai, Tokyo's Spinning House, Sukiya –Yu house, The Toyoson Stonemason museum and the Life Sciences Laboratory – Torikabuto in Japan. The book is designed to inform and inspire architects and structural engineers alike, and brings to life a structural system whose principles have been structures * Explores the impact of structural choices on the aesthetic impact of a building * Highly illustrated case studies from across the globe

Contains information for planning and executing architectural projects of all shapes and sizes, in a format that is small enough to carry anywhere, distilling the data provided in standard architectural volumes in an easy-to-use reference form and supplying the most indispensable--and most requested--types of architectural information.

A Class-Book for the Elementary Student and Artisan

The World Is Not a Rectangle

An Activity Book for Kids

Architecture Inspired by Nature

Sustainability, Preservation, and the Value of Design

Developments in Structural Form

In Building Reuse: Sustainability, Preservation, and the Value of Design, Kathryn Rogers Merlino makes an impassioned case that truly sustainable design requires reusing and reimagining existing buildings. The construction and operation of buildings is responsible for 41 percent of all primary energy use and 48 percent of all carbon emissions. The impact of the demolition and removal of an older building can greatly diminish the advantages of adding green technologies to new construction. Reusing existing buildings can be challenging to accomplish, but changing the way we think about environmentally conscious architecture has the potential to significantly reduce carbon emissions. Additionally, Merlino calls for a more expansive view of historic preservation that goes beyond keeping only the most distinctive structures and requiring that they remain fundamentally unchanged to embracing the creative reuse of even unremarkable buildings. In support of these points, Building Reuse includes a compelling range of case studies#From an eighteen-story office building to a private home#all located in the Pacific Northwest, a region with a long history of sustainable design and urban growth policies that have made reuse projects feasible.

What are the ingredients of robust, elegant, flexible, and maintainable software architecture? Beautiful Architecture answers this question through a collection of intriguing essays from more than a dozen of today's leading software designers and architects. In each essay, contributors present a notable software architecture, and analyze what makes it innovative and ideal for its purpose. Some of the engineers in this book reveal how they developed a specific project, including decisions they faced and tradeoffs they made. Others take a step back to investigate how certain architectural aspects have influenced computing as a whole. With this book, you'll discover: How Facebook's architecture is the basis for a data-centric application ecosystem The effect of Xen's well-designed architecture on the way operating systems evolve How community processes within the KDE project help software architectures evolve from rough sketches to beautiful systems How creeping featurism has helped GNU Emacs gain unanticipated functionality The magic behind the Jikes RVM self-optimizable, self-hosting runtime Design choices and building blocks that made Tandem the choice platform in high-availability environments for over two decades Differences and similarities between object-oriented and functional architectures How architectures can affect the software's engagement Go behind the scenes to learn what it takes to design elegant software architecture, and how it can shape the way you approach your own projects, with Beautiful Architecture.

Beautiful Architecture: Concepts, Construction, and the Value of Design is a comprehensive guide to the art and science of building. It covers the complete range of skills, concepts, principles, and applications that are needed to create a full set of architectural working drawings. Chapters proceed logically through each stage of development, beginning with site and floor plans and progressing to building sections, elevations, and additional drawings. Inside, you'll find: Coverage of the latest BIM technologies Environmental and Human Factors considerations Supplemental step-by-step instructions for complex chapters Live case studies, including two that are new to this edition Hundreds of computer-generated drawings and photographs, including BIM models, three-dimensional models, and full-size buildings shown in virtual space Checklists similar to those used in architectural offices Tips and strategies for complete development of construction documents, from schematic design to construction administration With an emphasis on sustainability throughout, this new edition of *The Professional Practice of Architectural Working Drawings* is an invaluable book for students in architecture, construction, engineering, interior design, and environmental design programs, as well as professionals in these fields.

This extraordinary book provides a detailed account of the relationship between classical antiquity and the British colonial presence in India. It examines some of the great figures of the colonial period such as Gandhi, Nehru, Macaulay, Jowett, and William Jones, and covers a range of different disciplines as it sweeps from the eighteenth century to the end of the British Raj in the twentieth. Using a variety of materials, including archival documents and familiar texts, Vasunia shows how classical culture pervaded the thoughts and minds of the British colonizers. His book highlights the many Indian receptions of Greco-Roman antiquity and analyses how Indians turned to ancient Greece and Rome during the colonial period for a variety of purposes, including anti-colonialism, nationalism, and collaboration. Offering a unique cross-cultural study, this volume will be of interest to literary scholars and historians of the classical world, the British Empire, and South Asia.

Elementary Structures for Architects and Builders

Structures or Why things don't fall down

Dictionary of Architecture and Building Construction

Architecture is Elementary

A Guide for Practicing Engineers and Students

Reciprocal Frame Architecture

Have you ever wondered how it's possible to build a skyscraper, a big bridge, a jumbo jet, or a cruise liner? Everything has structure. Structure is the difference between a random pile of components and a fully functional object. Through structure the parts connect to make the whole. Natural structures vary from the very smallest part of an atom to the entire cosmology of the universe. Man-made structures include buildings, bridges, dams, ships, aeroplanes, rockets, trains, cars and fair-ground rides and all forms of artefacts, even large artistic sculptures. The wide range of different industries in which structural engineers work includes construction, transport, manufacturing, and aerospace. In this Very Short Introduction, David Blockley explores, in non-technical language, what structural engineering is all about, including examples ranging from the Shard in London and the Golden Gate Bridge in San Francisco to jumbo jets like the A380 and the Queen Elizabeth cruise liner. ABOUT THE SERIES: The Very Short Introductions series from Oxford University Press contains hundreds of titles in almost every subject area. These pocket-sized books are the perfect way to get ahead in a new subject quickly. Our expert authors combine facts, analysis, perspective, new ideas, and enthusiasm to make interesting and challenging topics highly readable.

The leading guide to professional home construction—now updated and revised! Fundamentals of Residential Construction, Third Edition features the most up-to-date explanations of today's residential construction systems. From foundation to roof and exterior finishes to interior details, this new edition thoroughly addresses the latest developments in materials and methods of house construction, including energy efficiency, framing, and roofing. Amundantly illustrated with more than 1,250 drawings and photographs, including new photorealistic illustrations that bring the text to life, this Third Edition provides authoritative coverage on wood light-frame construction, industrialized systems of construction, insulating concrete forms, light-gauge steel frame, panelized construction, and a new chapter on multifamily construction. Topics covered include: Plumbing Building codes Heating and cooling Financing Wiring Roofing Thermal insulation Environmental concerns Foundations Finish sitework Rough sitework Wood and light-gauge steel framing Engineered materials Exterior and interior finishes Organized in a logical, easy-to-follow format, Fundamentals of Residential Construction, Third Edition is the one-stop source for building professionals to gain a working knowledge of codes, management procedures, material, and all home building concerns.

Fundamentals of Building Construction, Sixth Edition, involves students in the types of everyday issues faced by professional building architects. Exercises in Building Construction, Sixth Edition, offers students a hands-on way to apply material learned in the core book by featuring: Forty-six real world construction problems Clear instructions for each exercise Informative, concise illustrations Ample space to work out answers Complete with online resources for students and instructors, Exercises in Building Construction, Sixth Edition provides expert developmental guidance from the industry's leading authorial team.

In the critically acclaimed first edition of this book, Mainstone offered a brilliant and highly original account of the structural developments that have made possible the achievements of architects and bridge builders throughout history. In this extensively revised and expanded new edition, now available in paperback, new insights and a full coverage of recent developments in both design and construction are incorporated. The book identifies features that distinguish the forms built by man from those shaped by nature and discusses the physical and other constraints on the choices that can be made. It then looks in turn at all the elementary forms - arches, domes, beams, slabs and the like - which combine into the more complex forms of complete structures, and at the different classes of the complete forms themselves. The development of each form is traced chronologically, but with an emphasis less on the chronology than on the problems that designers have continually faced in trying to serve new ends with limited means or to serve old ones in new ways. The book concludes with a chapter on the processes of design, showing how the designer's freedom of choice has been widened by a growing understanding of structural behaviour.

The Classics and Colonial India

Principles of Structure, Fifth Edition

Materials, Structures, and Standards

Vibrant Architecture

Structural Engineering: A Very Short Introduction