

Architecture For An Embryologic Housing

Architecture in the Digital Age addresses contemporary architectural practice in which digital technologies are radically changing how buildings are conceived, designed and produced. It discusses the digitally-driven changes, their origins, and their effects by grounding them in actual practices already taking place, while simultaneously speculating about their wider implications for the future. The book offers a diverse set of ideas as to what is relevant today and what will be relevant tomorrow for emerging architectural practices of the digital age.

This book describes the detailed process behind the development of a comprehensive thermo-bio-architectural framework (the ThBA). This framework systematically connects the thermal performance requirements of a building to relevant solutions found in the natural world. This is the first time that architecture has been connected to biology in this manner. The book provides an in-depth understanding of thermoregulatory strategies in animals and plants and links these to equivalent solutions in architectural design. The inclusion of this fundamental knowledge, along with the systematic process of accessing it, should open up new avenues for the generation of energy efficient and sustainable buildings. Susannah Hagan boldly discusses the fraught relationship between key dominating areas of architectural discourse - digital design, environmental design, and avant-garde design. Digitalia firstly demonstrates that drawing such firm lines between architectural spheres is damaging and foolish, particularly as both environmental and avant-garde practices are experimenting with the digital, and secondly remonstrates with an avant-garde that has repudiated the social/ethical agenda of the modernist avant-garde because it failed the first time round. It is environmental architecture that has picked up the social/ethical ball and is running with it, using the digital to very different, and more far-reaching, ends. As the debates rage, this book is a key read for all who are involved or intrigued.

How do people avoid the stresses of the digital age? Urban dwellers must now turn to nature to recover, restore and rebalance after the stresses brought on by relentless digital connectivity. It is easy to task nature as the cure, with technology as the ailment. In Network Nature, Richard Coyne challenges the definitions of both the natural and the artificial that support this time-worn narrative of nature's benefits. In the process, he attacks the counter-claim that nature must succumb to the sovereignty of digital data. Covering a spectrum of issues and concepts, from big data and biohacking to animality, numinous spaces and the post-digital, he draws on the rich field of semiotics as applied to natural systems and human communication, to enhance our understanding of place, landscape and architecture in a digital world.

Vibrant Architecture

Design Basics: 2D and 3D

Computational Models in Architecture

Victor Lundy

Automatic Architecture

Architecture and Engineering in the Age of Modeling

A bold and unprecedented look at a cutting-edge movement in architecture Toward a Living Architecture? is the first book-length critique of the emerging field of generative architecture and its nexus with computation, biology, and complexity. Starting from the assertion that we should take generative architects' rhetoric of biology and sustainability seriously, Christina Cogdell examines their claims from the standpoints of the sciences they draw on—complex systems theory, evolutionary theory, genetics and epigenetics, and synthetic biology. She reveals significant disconnects while also pointing to approaches and projects with significant potential for further development. Arguing that architectural design today often only masquerades as sustainable, Cogdell demonstrates how the language of some cutting-edge practitioners and educators can mislead students and clients into thinking they are getting something biological when they are not. In a narrative that moves from the computational toward the biological and from current practice to visionary futures, Cogdell uses life-cycle analysis as a baseline for parsing the material, energetic, and pollution differences between different digital and biological design and construction approaches. Contrary to green-tech sustainability advocates, she questions whether quartzite-based silicon technologies and their reliance on rare earth metals as currently designed are sustainable for much longer, challenging common projections of a computationally designed and manufactured future. Moreover, in critiquing contemporary architecture and science from a historical vantage point, she reveals the similarities between eugenic design of the 1930s and the aims of some generative architects and engineering synthetic biologists today. Each chapter addresses a current architectural school or program while also exploring a distinct aspect of the corresponding scientific language, theory, or practice. No other book critiques generative architecture by evaluating its scientific rhetoric and disjunction from actual scientific theory and practice. Based on the author's years of field research in architecture studios and biological labs, this rare, field-building book does no less than definitively, unsparingly explain the role of the natural sciences within contemporary architecture.

The sketch is a window into the architects mind. As creative designers, architects are interested in how other architects, particularly successful ones, think through the use of drawings to approach their work. Historically designers have sought inspiration for their own work through an insight into the minds and workings of people they often regard as geniuses. This collection of sketches aims to provide this insight. Here for the first time, a wide range of world famous architects' sketches from the Renaissance to the present day can be seen in a single volume. The sketches have been selected to represent the concepts or philosophies of the key movements in architecture in order to develop an overall picture of the role of the sketch in the development of architecture. The book illustrates the work of designers as diverse as Andrea Palladio, Erich Mendelsohn, Sir Edwin Lutyens, Gianlorenzo Bernini, Le Corbusier, Michelangelo, Alvar Aalto, Sir John Soane, Francesco Borromini, Walter Gropius, and contemporary architects Tadao Ando, Zaha Hadid and Frank Gehry to name but a few. Each chronologically placed sketch is accompanied by text providing details about the architect's life, a look at the sketch in context, and the connection to specific buildings where appropriate. Style, media and meaning are also discussed, developing an explanation of the architect's thinking and intentions. As creative designers themselves, architects are interested in how other architects, particularly successful ones, think and draw and approach their work. Historically designers have sought inspiration for their own work through an insight into the minds and workings of people they often regard as geniuses. This collection of sketches aims to provide this insight. Listed chronologically each sketch will be accompanied by a text which provides: A short synopsis/history of the architect's life; a look at the sketch in this context; the connection to a specific building (where appropriate); techniques of the sketch: style and media; meaning - what the sketch shows about the architect's thinking and intentions followed by a select bibliography for each section.

Since the 1990s, in response to dramatic transformations in the worlds of technology and the economy, design - a once relatively definable discipline, complete with a set of sub-disciplines - has become unrecognizable. Consequently, design scholars have begun to address new issues, themes and sub-disciplines such as: sustainable design, design for well-being, empathic design, design activism, design anthropology, and many more. The Routledge Companion to Design Studies charts this new expanded spectrum and embraces the wide range of scholarship relating to design - theoretical, practice-related and historical - that has emerged over the last four decades. Comprised of forty-three newly-commissioned essays, the Companion is organized into the following six sections: Defining Design: Discipline, Process Defining Design: Objects, Spaces Designing Identities: Gender, Sexuality, Age, Nation Designing Society: Empathy, Responsibility, Consumption, the Everyday Design and Politics: Activism, Intervention, Regulation Designing the World: Globalization, Transnationalism, Translation Contributors include both established and emerging scholars and the essays offer an international scope, covering work emanating from, and relating to, design in the United Kingdom, mainland Europe, North America, Asia, Australasia and Africa. This comprehensive collection makes an original and significant contribution to the field of Design Studies.

If you're looking for something new under the midcentury sun, Victor Lundy (born 1923) is a real find, an important yet underappreciated figure in the history of American architecture. Trained in both the Beaux Arts and Bauhaus traditions, he built an impressive practice ranging from small-scale residential and commercial buildings to expressive religious buildings and two preeminent institutional works: the US Tax Court Building in Washington, DC (now on the National Register of Historic Places), and the US Embassy in Sri Lanka. This first book on Lundy's life and career documents his early work in the Sarasota School of Architecture, his churches, and his government buildings. In addition to essays on his use of light and material, many of the architect's original drawings, paintings, and sketches—including those from his travels throughout Europe, the Middle East, India, and Mexico, now held at the Library of Congress—are reproduced here for the first time.

Towards Communication in CAAD. Spectral Characterisation and Modelling with Conjugate Symbolic Domains

Collected Essays by Mark Goulthorpe, dECO1 Architects

The Digital Turn in Architecture 1992 - 2012

Drawing Imagining Building

Architectural Principles in the Age of Cybernetics

An Alternative View of Bio-informed Practice

Soft Living Architecture

This book presents a new take on the evolution of digital design theories in architecture from modernity to today, as they have been inspired both by contemporary philosophy and the emergence and access to advanced computation. It focuses on how concepts of difference in philosophy transformed architectural design theory and takes on even more significance with the introduction and ubiquitous use of computers within the discipline, changing the architectural design paradigm forever. Beginning with a presentation of American Pragmatism's push towards process, the book continues on to Husserl's influence on the modern movement, mid-century phenomenology, post-structuralist Derridean exchanges with architects, the Deleuzian influence on the smoothing of form and finally contemporary architectural references to speculative realism. Analyzing the arc of design theory as influenced by philosophical and computational logics, this book presents the transformation to contemporary design approaches that includes more biology, more data and more information, moving from "less is more" to "From Less to More!" Philosophical Difference and Advanced Computation in Architectural Theory is an influential read for students and academics of architectural theory, computational design and related areas.

Now almost 20 years old, the digital turn in architecture has already gone through several stages and phases. Architectural Design (AD) has captured them all – from folding to cyberspace, nonlinearity and hypersurfaces, from versioning to scripting, emergence, information modelling and parametricism. It has recorded and interpreted the spirit of the times with vivid documentary precision, fostering and often anticipating crucial architectural and theoretical developments. This anthology of AD's most salient articles is chronologically and thematically arranged to provide a complete historical timeline of the recent rise to pre-eminence of computer-based design and production. Mario Carpo provides an astute overview of the recent history of digital design in his comprehensive introductory essay and in his leaders to each original text. A much needed pedagogical and research tool for students and scholars, this synopsis also relates the present state of digitality in architecture to the history and theory of its recent development and trends, and raises issues of crucial importance for the contemporary practice of the design professions. A comprehensive anthology on digital architecture edited by one of its most eminent scholars in this field, Mario Carpo. Includes seminal texts by Bernard Cache, Peter Eisenman, John Frazer, Charles Jencks, Greg Lynn, Achim Menges and Patrik Schumacher. Features key works by FOA, Frank Gehry, Zaha Hadid, Ali Rahim, Lars Spuybroek/NOX, Kas Oosterhuis and SHoP.

Exploring the boundaries of one of the most contested fields of literary study—a field that in fact shares territory with philology, aesthetics, cultural theory, philosophy, and even cybernetics—this volume gathers a body of critical writings that, taken together, broadly delineate a possible poetics of the contemporary. In these essays, the most interesting and distinguished theorists in the field renegotiate the contours of what might constitute "contemporary poetics," ranging from the historical advent of concrete poetry to the current technopoetics of cyberspace. Concerned with a poetics that extends beyond our own time, as a mere marker of present-day literary activity, their work addresses the limits of a writing "practice"—beginning with Stéphane Mallarmé in the late nineteenth century—that engages concretely with what it means to be contemporary. Charles Bernstein's Swiftian satire of generative poetics and the textual apparatus, together with Marjorie Perloff's critical-historical treatment of "writing after" Bernstein and other proponents of language poetry, provides an itinerary of contemporary poetics in terms of both theory and practice. The other essays consider "precursors," recognizable figures within the histories or prehistories of contemporary poetics, from Kafka and Joyce to Wallace Stevens and Kathy Acker; "conjunctions," in which more strictly theoretical and poetical texts enact a concerted engagement with rhetoric, prosody, and the vicissitudes of "intelligibility"; "cursors," which points to the open possibilities of invention, from Augusto de Campos's "concrete poetics" to the "codework" of Alan Sondheim; and "transpositions," defining the limits of poetic invention by way of technology.

Edited by Barry Bergdoll, Peter Christensen. Texts by Barry Bergdoll, Peter Christensen, Ken Tadashi Oshima, Rasmus Waen.

Architectural Record

Philosophical Difference and Advanced Computation in Architectural Theory

The Routledge Companion to Design Studies

Handbook of Research on Form and Morphogenesis in Modern Architectural Contexts

Transgender Architectonics

The Shape of Change in Modernist Space

Bobjects and Beyond

Articulating a radical agenda for the rethinking of the basic precepts of the construction industry in light of digital technologies, this book explores the profound shift that is underway in all aspects of architectural process. Essays and lectures from the last fifteen years discuss these changes in relation to dECO1 Architects, created in 1991 as a forward-looking architectural practice. This excellent collection is relevant to architectural professionals, academics and students and also to practitioners in many related creative fields who are similarly engaged in trying to comprehend the significance of the import of digital media. In the 1960s and 70s, architects, influenced by recent developments in computing and the rise of structuralist and poststructuralist thinking, began to radically rethink how architecture could be created. Though various new approaches gained favor, they had one thing in common: they advocated moving away from the traditional reliance on an individual architect's knowledge and instincts and toward the use of external tools and processes that were considered objective, logical, or natural. Automatic architecture was born. The quixotic attempts to formulate such design processes extended modernist principles and tried to draw architecture closer to mathematics and the sciences. By focusing on design methods, and by examining evidence at a range of scales—from institutions to individual buildings—Automatic Architecture offers an alternative to narratives of this period that have presented postmodernism as a question of style, as the methods and techniques traced here have been more deeply consequential than the many stylistic shifts of the past half century. Sean Keller closes the book with an analysis of the contemporary condition, suggesting future paths for architectural practice that work through, but also beyond, the merely automatic. 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. The "active image" refers to the operative nature of images, thus capturing the vast array of "actions" that images perform. This volume features essays that present a new approach to image theory. It explores the many ways images become active in architecture and engineering design processes and how, in the age of computer-based modeling, images play an indispensable role. The contributors examine different types of images, be they pictures, sketches, renderings, maps, plans, and photographs; be they analog or digital, planar or three-dimensional, ephemeral, realistic or imaginary. Their essays investigate how images serve as means of representing, as tools for thinking and reasoning, as ways of imagining the in-existent, as means of communicating and conveying information and how images may also perform functions and have an agency in their own. The essays discuss the role of images from the perspective of philosophy, theory and history of architecture, history of science, media theory, cognitive sciences, design studies, and visual studies, offering a multidisciplinary approach to imagery and showing the various methodologies and interpretations in current research. In addition, they offer valuable insight to better understand how images operate and function in the arts and sciences in general.

Fragments of a Cultural History of Computational Design

Proceedings of the Ninth International Conference held at the Eindhoven University of Technology, Eindhoven, The Netherlands, on July 8–11, 2011

Architecture for an Embryologic Housing

Heating with Wolves. Cooling with Cacti

Cornucopia Limited

The New Fluidity in Design

The Active Image

The Architectural Imagination at the Digital Turn asks what it means to speak of a "digital turn" in architecture. It examines how architects at the time engaged with the digital and imagined future modes of practice, and looks at the technological, conceptual and economic phenomena behind this engagement. It argues that the adoption of digital technology in architecture was far from linear but depended on complex factors, from the operative logic of the technology itself to the context in which it was used and the people who interacted with it. Creating a mosaic-like account, the book presents debates, projects and publications that changed how architecture was visualized, fabricated and experienced using digital technology. Spanning the university, new media art institutes, ecologies, architectural bodies, fabrication and the city, it re-evaluates familiar narratives that emphasized formal explorations; instead, the book aims to complicate the "myth" of the digital by presenting a nuanced analysis of the material and social context behind each case study. During the 1990s, architects repurposed software and technological concepts from other disciplines and tested them in a design environment. Some architects were fascinated by its effects, others were more critical. Through its discussion on case studies, places and themes that fundamentally influenced discourse formation in the era, this book offers scholars, researchers and students fresh insights into how architecture can engage with the digital real today.

Combining transgender studies with the 'neomodernist' architectures of the internationally renowned firm, Diller Scofidio + Renfro (DS+R) and with modernist writers (Samuel Beckett and Virginia Woolf) whose work anticipates that of transgender studies, this book challenges the implicit 'spatial models' of popular narratives of transgender - interiority, ownership, sovereignty, structure, stability, and domesticity - to advance a novel theorization of transgender as a matter of exteriority, groundlessness, ornamentation, and movement. With case studies spanning the US and UK, Transgender Architectonics examines the ways in which modernist architecture can contribute to our understanding of how it is that humans are able to transform, shedding light on the manner in which architecture, space, and the spatial metaphors of gender can play significant - if often unrealized - potential roles in body and gender transformation. By remedying both the absence of actual architecture in queer theory's discussions of space and also architectural theory's marginal treatment of transgender, this volume constitutes a serious intervention in the field of 'queer space'. It draws on modernist literature in order to reckon with and rebuild the architectural ideas that already implicitly structure common understandings of the queer and transgender self. As such, it will appeal to scholars with interests in queer theory, the body and transformation, gender and sexuality, modernist writing and architectural theory.

The much-anticipated anthology on Plato'sTimaeus-Plato's singular dialogue on the creation of the universe, the nature of the physical world, and the place of persons in the cosmos-examining all dimensions of one of the most important books in Western Civilization: its philosophy, cosmology, science, and ethics, its literary aspects and reception. Contributions come from leading scholars in their respective fields, including Sir Anthony Leggett, 2003 Nobel Laureate for Physics. Parts of or earlier versions of these papers were first presented at the Timaeus Conference, held at the University of Illinois at Urbana-Champaign in September of 2007.To this day, Plato's Timaeus grounds the form of ethical and political thinking called Natural Law-the view that there are norms in nature that provide the patterns for our actions and ground the objectivity of human values. Beyond the intellectual content of the dialogue's core, its literary frame is also the source of the myth of Atlantis, giving the West the concept of the "lost world."Quote;

Using the liminality of design—its uneasy position between creatiivty and commerce—to explore the network economy. The network economy presents itself in the transactions of electronic commerce, finance, business, and communications. The network economy is also a social condition of discontinuity, indefinite limits, and in-between spaces. In Cornucopia Limited, Richard Coyne uses the liminality of design—its uneasy position between creativity and commerce—to explore the network economy. He argues that design, with its open-ended and transgressive explorations, provides a new way to think about the world of commerce; design's inter-territorial precinct, its in-between condition, offers a way to frame the problems of the Internet economy—for profit vs. for free, private vs. public, security vs. open access, defense vs. permeability. Design, says Coyne, has a natural affinity with the edge condition and the position between polar opposites. Edgy design starts with an idea, brings to mind its opposite, and then works with what emerges from the friction between the two. The designer of a Web portal, for example, might take on the problem of security by focusing on the limits of permeability. Design is edgy, and risky, argues Coyne, in the same way that breaches in network security are risky. In Cornucopia Limited he examines the threshold between conditions exemplified by the boundary between design and commerce. Coyne uses five metaphors of design to develop his argument: the household (in economics, historically opposed to the market), with its relationship to the street mediated by various portals; the machine, rampant and glitchy; the game, competitive but simulated; the gift, precursor to commerce; and the threshold. The threshold condition, Coyne says, is the site of edgy design and a portal into the new. The threshold, he argues, provides the most potent metaphor for understanding the liminal dwellers of the network economy.

Artist Architect

Computer Aided Architectural Design Futures 2001

Digital Architecture Beyond Computers

Design and Manufacturing

Architects Today

The Place of Nature in the Digital Age

Architecture in the Digital Age

Architecture for an Embryologic HousingThe Digital Turn in Architecture 1992 - 2012John Wiley & Sons

Soft Living Architecture explores the invention of new architectures based on living processes. It crafts a unique intersection between two fast-developing disciplines: biomimicry and biodesign in architecture, and bioinformatics and natural computing in the natural sciences. This is the first book to examine both the theory and methodology of architecture and design working directly with the natural world. It explores a range of approaches from the use of life-like systems in building design to the employment of actual growing and living cell and tissue cultures as architectural materials - creating architecture that can change, learn and grow with us. The use of 'living architecture' is cutting-edge and speculative, yet it is also inspiring a growing number of designers worldwide to adopt alternative perspectives on sustainability and environmental design. The book examines the ethical and theoretical issues arising alongside case-studies of experimental practice, to explore what we mean by 'natural' in the Anthropocene, and raise deep questions about the nature of design and the design of nature. This provocative and at times controversial book shows why it will become ever more necessary to embrace living processes in architecture if we are to thrive in a sustainable future. Essays by Max Hollein, Greg Lynn, Hani Rashid, Mark Taylor and Peter Weibel.

In the past two decades economic bubbles inflated and architectural spending around the globe reached fever pitch. In both well-established centers of capital accumulation and far-flung locales, audacious building projects sprang up, while the skyscraper, heretofore more commonly associated with American capitalism, seemed as if it might pack up and relocate to Dubai and Shanghai. Of course, much has changed in the past couple of years. In formerly free-spending Dubai, the tallest building in the world is now is named after the president of Abu Dhabi after he stepped in with last-minute debt financing. In cities across the United States, housing prices have nose-dived and cleared lots sit ready for commercial redevelopment that likely won't take place for another decade. Similar stories are not hard to find in many other nations. Architecture firms that swelled in flush days are jettisoning employees at a startling rate. In the context of economic instability (and its attendant social and political consequences), this edited volume brings together scholars, critics, and architects to discuss the present state of uncertainty in the practice and discipline of architecture. The chapters are organized into three main areas of inquiry: economics, practice, and technology. Within this larger framework, authors explore issues of security, ecological design, disaster architecture, the future of architectural practice, and the ethical obligations of the social practice of design. In doing so, it argues that this period has actually afforded architecture a valuable moment of self-reflection, where alternative directions for both the theory and practice of architecture might be explored rather than continuing with an approach which was so nurtured by capitalist prosperity and affluence.

Home Delivery

Embodiment in Architectural Design Practices

Design and Dissent on the Internet

The Possibility of (an) Architecture

Greg Lynn FORM

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Architecture and the Digital, the Environmental and the Avant-Garde

Pulsation in Architecture highlights the role of digital design as the catalyst for a new spatial sensibility related to rhythmic perception. It proposes a novel critical reception of computational architecture based on the ability of digital design to move beyond mere instrumentality, and to engage with core aspects of the discipline: the generative engine of digital architecture reinvigorates a discourse of part-to-whole relationships through the lens of rhythmic affect. There is a paradigm shift in spatial perception due to the intense use of computational techniques and the capacity to morph massive amounts of data in spatial patterns; rhythm plays a pivotal role in the articulation of the topology of buildings, generating the atmospheric character that induces moods and throbbing sensations in space. Pulsation introduces the fundamental animate capacity of living form and reshapes our perception of architectural space across the multiple scales of a project, from digital inception to fabrication. An emerging thread of rhythmic sensibility loosely binds a survey of contemporary design practices, including contributions by Peter Eisenman, Jeff Kipnis, Greg Lynn, UNStudio, Preston Scott Cohen, Reiser + Umemoto, Asymptote, Ali Rahim, Hernan Diaz Alonso, Ruy Klein, Gage / Clemenceau, NOX, Evan Douglis Studio, kokkugia, and MONAD Studio.

A tie-in to major exhibition at the San Jose Museum of Art offers a comprehensive survey of the new fluidity of modern design, a style that emphasizes a turn away from hard edges and angles to celebrate an amorphous, organic, and curvaceous design.

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.

As architectural designs continue to push boundaries, there is more exploration into the bound shape of architecture within the limits of spaces made for human usability and interaction. The Handbook of Research on Form and Morphogenesis in Modern Architectural Contexts provides emerging research on the process of architectural form-finding as an effort to balance perceptive efficiency with functionality. While highlighting topics such as architectural geometry, reverse modeling, and digital fabrication, this book details the geometric process that forms the shape of a building. This publication is a vital resource for scholars, IT professionals, engineers, architects, and business managers seeking current research on the development and creation of architectural design.

Digitalia

Network Nature

Thermo-bio-architectural Framework (ThBA)

Complexism and Biology in Generative Design

Architectural Laboratories

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

Design Technics

One of the most provocative and exciting architects today, Greg Lynn has defined how designers and architects use computers as a medium, operating in an expanded field that fuses cutting-edge technology, contemporary art, and science fiction aesthetics with architectural form. At the epicenter of a debate about the role of digital design and new fabrication methods in architecture and general design culture, his projects skillfully blend high technology and detailed craftsmanship, driven by modeling software from the film and aerospace industries. They range from the Ravioli lounge chair for Vitra to the Embryological House, a pre-fab housing type that takes advantage of new manufacturing technologies to produce customized houses adaptable to local conditions. Included are contributions from theorists, architects, and artists, and futurists such as Sylvia Lavin, Ben van Berkel, and Caroline Bos of UN Studio, J.G. Ballard, and Tom Friedman, among others. Greg Lynn FORM offers a window into Lynn's methods and techniques, theoretical positions, and career trajectory. Rather than a retrospective of Lynn's career, it is thought-provoking and forward-looking. Drawing Imagining Building focuses on the history of hand-drawing practices to capture some of the most crucial and overlooked parts of the process. Using 80 black and white images to illustrate the examples, it examines architectural drawing practices to elucidate the ways drawing advances the architect's imagination. Emmons considers drawing practices in the Renaissance and up to the first half of the twentieth century. Combining systematic analysis across time with historical explication presents the development of hand-drawing, while also grounding early modern practices in their historical milieu. Each of the illustrated chapters considers formative aspects of architectural drawing practice, such as upright elevations, flowing lines and occult lines, and drawing scales to identify their roots in an embodied approach to show how hand-drawing contributes to the architect's productive imagination. By documenting some of the ways of thinking through practices of architectural handdrawing, it describes how practices can enrich the ethical imagination of the architect. This book would be beneficial for academics, practitioners, and students of architecture, particularly those who are interested in the history and significance of hand-drawing and technical drawing.

A theoretical history of anthropomorphism and proportion in modern architecture, this volume brings into focus the discourse around proportion with current problems of post-humanism in architecture alongside the new possibilities made available through digital technologies. The book examines how the body and its ordering has served as a central site of architectural discourse in recent decades, especially in attempts to reformulate architecture's relationship to humanism, modernism and technology. Challenging some concepts and categories of architectural history and situates current debates within a broader cultural and technological context, Hight makes complex ideas easily accessible. Extensively illustrated and written without academic jargon for an informed but non-specialized architectural audience, this book elucidates the often obscure debates of avant-garde architectural discourse and design, while demonstrating how these debates have affected everyday places and concepts of architecture. As a result, it will appeal to professional architects, academics and students, combining as it does an insightful introduction to the fundamental issues of architectural history and theory over the past fifty years with entirely new formulations of what that history is and means.

Digital Architecture Beyond Computers explores the deep history of digital architecture, tracing design concepts as far back as the Renaissance and connecting them with the latest software used by designers today. It develops a critical account of how the tools and techniques of digital design have emerged, and allows designers to deepen their understanding of the digital tools they use every day. What aesthetic, spatial, and philosophical concepts converge within the digital tools architects employ? What is their history? And what kinds of techniques and designs have they given rise to? This book explores the answers to these questions, showing how digital architecture brings together complex ideas and trajectories which span across several domains and have evolved over many centuries. It sets out to unpack these ideas, trace their origin and permeation into architecture, and re-examine their use in contemporary software. Chapters are arranged around the histories of nine 'fragments' - each a fundamental concept embedded in popular CAD applications: database, layers and fields, parametrics, pixel, programme, randomness, scanning, topology, and voxel/maxel - with each theme examined through a series of historical and contemporary case studies. The book thus connects the digital design process with architectural history and theory, allowing designers and theorists alike to develop more analytical and critical tools with which to conceptualise digital design and its software.

Motivating Form after Modernism

Matter as a CoDesigner of Living Structures

Sensory Design

Fabricating the Modern Dwelling

Toward a Living Architecture?

Drawing from the Model

Architecture in an Age of Uncertainty

This scientific work focuses on computer-aided computational models in architecture. The author initially investigates established computational models and then expands these with newer approaches to modeling. In his research the author integrates approaches to analytical philosophy, probability theory, formal logic, quantum physics, abstract algebra, computer-aided design, computer graphics, glossematics, machine learning, architecture, and others. For researchers in the fields of information technology and architecture.

What if we designed for all of our senses? Suppose for a moment that sound, touch, and odor were treated as the equals of sight, and emotion considered as important as cognition. What would our built environment be like if sensory response, sentiment, and memory were critical design factors, the equals of structure and program? In Sensory Design, Joy Monice Malnar and Frank Vodvarka explore the nature of our responses to spatial constructs—from various sorts of buildings to gardens and outdoor spaces, to constructions of fantasy. To the degree that this response can be calculated, it can serve as a typology for the design of significant spaces, one that would sharply contrast with the Cartesian model that dominates architecture today. In developing this typology, the authors consult the environmental sciences, anthropology, psychology, and architectural theory, as well as the spatial analysis found in literary depiction. Finally, they examine the opportunities that CAVE and other immersive virtual reality technologies present in furthering a new, sensory-oriented design paradigm. The result is a new philosophy of design that both celebrates our sensuous occupation of the built environment and creates more humane design. A revolutionary approach to the built environment that embraces all of our senses and modes of understanding.

This volume offers both an introduction to and an insight into key contemporary architects as well as giving a snapshot of the varied nature of architecture today. For each architect there are details of their life and work and illustrations of their most representative and iconic buildings.

DESIGN BASICS, the market-leading text for the two-dimensional design course, now covers 3D design! DESIGN BASICS: 2D and 3D presents art fundamentals in two- to four-page spreads, making the text practical and easy for students to refer to while they work. This modular format gives instructors the utmost flexibility in organizing the course. Visual examples from many periods, peoples, and cultures are provided for all elements and principles of design. Icons throughout the book prompt students to access CourseMate (available separately), which provides studio art demonstrations, interactive exercises that help students explore the foundations of art, and an interactive eBook. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.

One Book, The Whole Universe

Pulsation in Architecture

Contemporary Poetics

The Architectural Imagination at the Digital Turn

Archaeologies of Architectural Practice

Architect's Drawings

From Less to More

Leading scholars historicize and theorize technology's role in architectural design Although the question of technics pervades the contemporary discipline of architecture, there are few critical analyses on the topic. Design Technics fills this gap, arguing that the technical dimension of design has often been flattened into the broader celebratory rhetoric of innovation. Bringing together leading scholars in architectural and design history, the volume's contributors situate these tools on a broader epistemological and chronological canvas. The essays here construct histories—some panoramic and others unfolding around a specific episode—of seven techniques regularly used by the designer in the architectural studio today: rendering, modeling, scanning, equipping, specifying, positioning, and repeating. Starting with observations about the epistemological changes that have unfolded in the discipline in recent decades but seeking to offer a more expansive meaning for technics, the volume casts new light on concepts such as form, experience, and image that have played central roles in historical architectural discourses. Among the questions addressed: How was the concept of form immanent in practices of scanning since the late nineteenth century? What was the historical relationship between rendering and experience in Enlightenment discourses? How did practices of specifying reconfigure the distinction between intellectual and manual labor? What kind of rationality is inherent in the designer's constant clicking of the mouse in front of her screen? In addressing these and other questions, this engaging and timely collection thereby proposes technics as a site for historical and philosophical reflection not only for those engaged in architectural design but also for any scholar working in the humanities today. Contributors: Lucia Allais, Edward Eigen, Orit Halpern, John Harwood, Matthew C. Hunter, and Michael Osman.

CAAd Futures is a Bi-annual Conference that aims at promoting the advancement of computer aided architectural design in the service of those concerned with the quality of the built environment. The conferences are organised under the auspices of the CAAD Futures Foundation which has its secretariat at the Eindhoven University of Technology. The Series of conferences started in 1985 in Delft, and has since travelled through Eindhoven, Boston, Zurich, Pittsburgh, Singapore, Munich, and Atlanta. The book contains the proceedings of the 9th CAAD Futures conference which took place at Eindhoven University of Technology, 8-11 of July, 2001. The Articles in this book cover a wide range of subjects and provide an excellent overview of the state-of-the-art in research on computer aided architectural design. The following categories of articles are included: Capturing design; Information modelling; CBR techniques; Virtual reality; CAAD education; (Hyper) Media; Design evaluation; Design systems development; Collaboration; Generation; Design representation; Knowledge management; Form programming; Simulation; Architectural analysis; Urban design. Information on the CAAD Futures Foundation and its conferences can be found at: www.caadfutures.arch.tue.nl. Information about the 2001 Conference and this book is available from: www.caadfutures.arch.tue.nl/2001.