Extreme Architecture Bulding For Challenging Environments

Preservation is Overtaking Us brings together two lectures given by Rem Koolhaas at Columbia University's Graduate School of Architecture, Planning and Preservation, along with a response (framed as a supplement to the original lectures) by Jorge Otero-Pailos. In the first essay Koolhaas describes alternative strategies for preserving Beijing, China. The second talk marks the inaugural Paul Spencer Byard lecture, named in celebration of the longtime professor of Historic Preservation at GSAPP. These two lectures trace key moments of Koolhaas' thinking on preservation, including his practice's entry into China and the commission to redevelop the State Hermitage Museum in St. Petersburg, Russia. In a format well known to Koolhaas' readers, Otero-Pailos reworks the lectures into a working manifesto, using it to interrogate OMA's work from within the discipline of preservation.

The founder of Architizer.com and practicing architect draws on his unique position at the crossroads of architecture and social media to highlight 100 important buildings that embody the future of architecture. We're asking more of architecture than ever before; the response will define our future. A pavilion made from paper. A building that eats smog. An inflatable concert hall. A research lab that can walk through snow. We're entering a new age in architecture—one where we expect our buildings to deliver far more than just shelter. We want buildings that inspire us while helping the environment; buildings that delight our senses while serving the needs of a community; buildings made possible both by new technology and repurposed materials. Like an architectural cabinet of wonders, this book collects the most innovative buildings of today and tomorrow. The buildings hail from all seven continents (to say nothing of other planets), offering a truly global perspective on what lies ahead. Each page captures the soaring confidence, the thoughtful intelligence, the space-age wonder, and at times the sheer whimsy of the world's most inspired buildings—and the questions they provoke: Can a building breathe? Can a skyscraper be built in a day? Can we 3D-print a house? Can we live on the moon? Filled with gorgeous imagery and witty insight, this book is an essential and delightful guide to the future being built around us—a future that matters more, and to more of us, than ever.

The third book in the highly successful XS series, XS Extreme considers buildings at the edge of possibility. Sited in remote locations, built to withstand wild climatic conditions, or conceptually daring or provocative, all the structures are original, innovative and instructive. Over forty projects are presented through accessible, witty texts, with plans, drawings and photographs. A reference section gives architect and project information. Like its predecessors, XS Extreme offers striking new ideas at a human scale that will inspire anyone keen to improve the world we build around ourselves.

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 architectural views How architectures can affect the software's evolution and the developers' 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.

What kind of architecture emerges in an extreme environment? Responding to some of the ultimate challenges in architecture, the buildings featured in this book provide valuable insight into the extremes of architectural thinking. In an increasingly unstable world, some of the lessons that they teach about self-sufficiency may yet become more generally applicable. Lessons from terrestrial environments are being used in designs for space, while space technology is also being applied on earth. Divided into five chapters—Hot, Cold, High, Wet, and Space—Extreme Architecture showcases 45 examples of recent buildings designed for challenging environments. It includes a desert refuge in southern Arizona, a floating marine research center, an underground seed vault in northern Norway, and a South Pole research station. Each case study begins with a clearly presented table listing the altitude, annual rainfall, and average temperatures of the site. This information is accompanied by photographs showing the project in its environment, as well as by drawings, site plans, and computer renderings where appropriate.

Unfriendly to conventional electronic devices, circuits, and systems, extreme environments represent a serious challenge to designers and mission architects. The first truly comprehensive guide to this specialized field, Extreme Environment Electronics explains the essential aspects of designing and using devices, circuits, and electronic systems intended to operate in extreme environments, including across wide temperature ranges and in radiation-intense scenarios such as space. The Definitive Guide to Extreme Environment Electronics Featuring contributions by some of the world's foremost experts in extreme environment electronics, the book provides in-depth information on a wide array of topics. It begins by describing the extreme conditions and then delves into a description of suitable semiconductor technologies and the modeling of devices within those technologies. It also discusses reliability issues and failure mechanisms that readers need to be aware of, as well as best practices for the design of these electronics. Continuing beyond just the "paper design" of building blocks, the book rounds out coverage of the design realization process with verification techniques and chapters on electronic packaging for extreme environments. The final set of chapters describes actual chip-level

designs for applications in energy and space exploration. Requiring only a basic background in electronics, the book combines theoretical and practical aspects in each self-contained chapter. Appendices supply additional background material. With its broad coverage and depth, and the expertise of the contributing authors, this is an invaluable reference for engineers, scientists, and technical managers, as well as researchers and graduate students. A hands-on resource, it explores what is required to successfully operate electronics in the most demanding conditions.

This book is the celebration of small buildings, those unexpected structures that make us momentarily pause to ponder their meaning, or our own meaning, or simply to appreciate the elegance of their creation. From the spectrum of functions and styles of these structures, it is clear that size imposes no limits on creativity, and utility is no constraint to beauty. Thinking small is a wonderfully constructive exercise.

This book is a collection of articles that have been published in the Special Issue "Responsive Architecture" of the MDPI journal Buildings. The eleven articles within cover various areas of sensitive architecture, including the design of packaging structures reacting to supporting components; structural efficiency of bent columns in indigenous houses; roof forms responsive to buildings depending on their resiliently transformed steel shell parts; creative design of building free shapes covered with transformed shells; artistic structural concepts of the architect and civil engineer; digitally designed airport terminal using wind analysis; rationalized shaping of sensitive curvilinear steel construction; interactive stories of responsive architecture; transformed shell roof constructions as the main determinant in the creative shaping of buildings without shapes that are sensitive to man-made and natural environments; thermally sensitive performances of a special shielding envelope on balconies; quantification of generality and adaptability of building layout using the SAGA method; and influence of initial conditions on the simulation of the transient temperature field inside a wall.

For more than fifty years, Halley Research Station—located on the Brunt Ice Shelf in Antarctica's Weddell Sea—has collected a continuous stream of meteorological and atmospheric data critical to our understanding of polar atmospheric chemistry, rising sea levels, and the depletion of the ozone layer. Since the station's establishment in 1956, there have been six Halley stations, each designed to withstand the difficult climatic conditions. The first four stations were crushed by snow. The fifth featured a steel platform, allowing it to rise above snow cover, but it, too, had to be abandoned when it moved too far from the mainland, making its habitation precarious. Completed in 2012, Halley VI is the winning design from a competition in collaboration with the Royal Institute of British Architects (RIBA). Like its predecessor, Halley VI can rise to avoid snow accumulation, but it is also the first research station able to be fully relocatable, its eight modules situated atop ski-fitted hydraulic legs. This book tells the story of this iconic piece of architecture's design and creation, supplemented with many illustrations, including plans and previously unpublished photographs.

The Routledge Companion for Architecture Design and Practice provides an overview of established and emerging trends in architecture practice. Contributions of the latest research from international experts examine external forces applied to the practice and discipline of architecture. Each chapter contains up-to-date and relevant information about select aspects of architecture, and the changes this information will have on the future of the profession. The Companion contains thirty-five chapters, divided into seven parts: Theoretical Stances, Technology, Sustainability, Behavorism, Urbanism, Professional Practice and Society. Topics include: Evidence-Based Design, Performativity, Designing for Net Zero Energy, The Substance of Light in Design, Social Equity and Ethics for Sustainable Architecture, Universal Design, Design Psychology, Architecture, Branding and the Politics of Identity, The Role of BIM in Green Architecture, Public Health and the Design Process, Affordable Housing, Disaster Preparation and Mitigation, Diversity and many more. Each chapter follows the running theme of examining external forces applied to the practice and discipline of architecture in order to uncover the evolving theoretical tenets of what constitutes today's architectural profession, and the tools that will be required of the future architect. This book considers architecture's interdisciplinary nature, and addresses its current and evolving perspectives related to social, economic, environmental, technological, and globalization trends. These challenges are central to the future direction of architecture and as such this Companion will serve as an invaluable reference for undergraduate and postgraduate students, existing practitioners and future architects.

Presents the award-winning design for the Office Building of the Future; it integrates new thinking about the workplace, sustainability, and accommodates a limitless range of building types and scales.

What's so tough about building a solar collector? Most people think it's time they tried to do their part at lowering their monthly utility bills or curbing climate change, but they suspect that their dream of building a hot water solar collector is more than they can handle. In some cases, this may be true. However, if you have already performed your own plumbing repairs, this project may not be as difficult as and more affordable than you imagine. This down-to-earth guide can show you just how possible such a project can be. With simple step-by-step instructions, fifty-six clear illustrations, and a complete parts list from a major hardware store, you may fulfill your dream of going solar sooner than you think. This is an excellent book with clear and well thought out plans. With a little investment of time and the parts listed, you will have a worthy product that will save money and provide satisfaction. A. J. Shea I am very impressed with the plans for this solar hot water system. I think it was easy to understand and complete with material lists and where to get them. I am looking forward to building one soon. Dean Cardin For anyone wanting to build their own solar collector, this is a great tool. Like others have said, follow the directions with respect to the materials specified. BigBear

"Written by two national leaders in sustainable design, a principal at Perkins + Will and a former chair of the board of USGBC, this is the key guide to designing sustainable health care facilities. Fully updated with the latest sustainable design information, new project case studies, and performance metrics LEED for Healthcare (new in 20II) and the online Green Guide for Health Care, the book covers hospitals, ambulatory care, wellness centers, subacute care, and rehabilitation centers. It also includes a number of new guest contributor essays on sustainable design topics specific to healthcare facilities"--

What can you do with a degree in architecture? Where might it take you? What kind of challenges could you address? Architects After Architecture reframes architecture as a uniquely versatile way of acting on the world, far beyond that of designing buildings. In this volume, we meet forty practitioners through profiles, case studies, and interviews, who have used their architectural training in new and resourceful ways to tackle the climate crisis, work with refugees, advocate for diversity, start tech companies, become leading museum curators, tackle homelessness, draft public policy, become developers, design videogames, shape public discourse, and much more. Together, they describe a future of architecture that is diverse and engaged, expanding the limits of the discipline, and offering new paths forward in times of crisis. Whether you are an architecture student or a practicing architect considering a change, you'll find this an encouraging and inspiring read. Please visit the Architects After Architecture website for more information, including future book launches and events: architectsafterarchitecture.com

Tall buildings are not the only solution for achieving sustainability through increased density in cities but, given the scale of current population shifts, the vertical city is increasingly being seen as the most viable solution for many urban centers. However, the full implications of concentrating more people on smaller plots of land by building vertically - whether for work, residential or leisure functions - needs to be better researched and understood. It is generally accepted that we need to reduce the energy equation – in both operating and embodied terms – of every component and system in the building as an essential element in making it more sustainable. Mechanical HVAC systems (Heating, Ventilation and Air-Conditioning) in tall office buildings typically account for 30-40 percent of overall building energy consumption. The increased efficiency (or possibly even elimination) of these mechanical systems – through the provision of natural ventilation – could thus be argued to be the most important single step we could make in making tall buildings more sustainable. This guide sets out recommendations for every phase of the planning, construction and operation of natural ventilation systems in these buildings, including local climatic factors that need to be taken into account, how to plan for seasonal variations in weather, and the risks in adopting different implementation strategies. All of the recommendations are based on analysis of the research findings from richly-illustrated international case studies. Tried and tested solutions to real-life problems make this an essential guide for anyone working on the design and operation of tall buildings anywhere in the world. This is the first technical guide from the Council on Tall Buildings and Urban Habitat's Tall Buildings & Sustainability Working Group looking in depth at a key element in the creation of tall buildings with a much-reduced environmental impact, while taking the industry closer to an appreciation of what constitutes a sustainable tall building, and what factors affect the sustainability threshold for tall.

Data is at the center of many challenges in system design today. Difficult issues need to be figured out, such as scalability, consistency, reliability, efficiency, and maintainability. In addition, we have an overwhelming variety of tools, including relational databases, NoSQL datastores, stream or batch processors, and message brokers. What are the right choices for your application? How do you make sense of all these buzzwords? In this practical and comprehensive guide, author Martin Kleppmann helps you navigate this diverse landscape by examining the pros and cons of various technologies for processing and storing data. Software keeps changing, but the fundamental principles remain the same. With this book, software engineers and architects will learn how to apply those ideas in practice, and how to make full use of data in modern applications. Peer under the hood of the systems you already use, and learn how to use and operate them more effectively Make informed decisions by identifying the strengths and weaknesses of different tools Navigate the trade-offs around consistency, scalability, fault tolerance, and complexity Understand the distributed systems research upon which modern databases are built Peek behind the scenes of major online services, and learn from their architectures

From the bestselling author of Ecohouse, this fully revised edition of Adapting Buildings and Cities for Climate Change provides unique insights into how we can protect our buildings, cities, infra-structures and lifestyles against risks associated with extreme weather and related social, economic and energy events. Three new chapters present evidence of escalating rates of environmental change. The authors explore the growing urgency for mitigation and adaptation responses that deal with the resulting challenges. Theoretical information sits alongside practical design guidelines, so architects, designers and planners can not only see clearly what problems they face, but also find the solutions they need, in order to respond to power and water supply needs. Considers use of materials, structures, site issues and planning in order to provide design solutions. Examines recent climate events in the US and UK and looks at how architecture was successful or not in preventing building damage. Adapting Buildings and Cities for Climate Change is an essential source, not just for architects, engineers and planners facing the challenges of designing our building for a changing climate, but also for everyone involved in their production and use.

This unique and comprehensive collection investigates the challenges posed to intellectual property by recent paradigm shifts in biology. It explores the legal ramifications of emerging technologies, such as genomics, synthetic biology, stem cell research, nanotechnology, and biodiscovery. Extensive contributions examine recent controversial court decisions in patent law such as Bilski v. Kappos, and the litigation over Myriad's patents in respect of BRCA1 and BRCA2 while other papers explore sui generis fields, such as access to genetic resources, plant breeders' rights, and traditional knowledge. The collection considers the potential and the risks of the new biology for global challenges such as access to health-care, the protection of the environment and biodiversity, climate change, and food security. It also considers Big Science projects such as biobanks, the 1000 Genomes Project, and the Doomsday Vault. The inter-disciplinary research brings together the work of scholars from Australia, Canada, Europe, the UK and the US and involves not only legal analysis of case law and policy developments, but also historical, comparative, sociological, and ethical methodologies. Intellectual Property and Emerging Technologies will appeal to policy-makers, legal practitioners, business managers, inventors, scientists and researchers.

Energy performance feedback is an essential tool in addressing the current climate crisis. However, this is not simply another theoretical text about energy performance in buildings. This book is for anyone who wants to better understand how energy is used in buildings, and how to drive down operational energy use – whether you're an architect, student, client, building services engineer, contractor, building operator or other stakeholder. Focusing on evidence from feedback on buildings in use, it explains what it takes to get them to perform as expected, as well as the reasons why they often fail. Energy, People, Buildings draws extensively on the findings of studies, UK government-funded building performance evaluations and on original research into seven case studies from across the UK and abroad that have achieved exemplary energy use through building performance feedback. Providing a clear roadmap to understanding aspects that impact building users' comfort and satisfaction, it also outlines the factors behind energy use and how to track it across the life of a project to ensure that your building performs as intended. Case studies include: the Everyman Theatre, Liverpool; Rocky Mountain Institute Innovation Center, Colorado; and Carrowbreck Meadow, Norwich. Featured architects: AHMM, AHR, Architype, Hamson Barron Smith, Haworth Tompkins, Henning Larsen Architects and ZGF Architects.

By exploring the processes of collecting, which challenge the bounds of normally acceptable practice, this book debates the practice of collecting 'difficult' objects, from a historical and contemporary perspective; and discusses the acquisition of objects related to war and genocide, and those purchased from the internet, as well as considering human remains, mass produced objects and illicitly traded antiquities. The aim is to apply a critical approach to the rigidity of museums in maintaining essentially nineteenth-century ideas of collecting; and to move towards identifying priorities for collection policies in museums, which are inclusive of acquiring 'difficult' objects. Much of the book engages with the question of the limits to the practice of collecting as a means to think through the implementation of new strategies.

By the turn of the 1990s, Western democracy appeared destined to become the universal governmental norm. However, as we move into the new millennium there are growing signs that extremism is far from dead. In recent years, the extreme right has gathered notable support in many Western countries, such as Austria, France and Italy. Racist violence, initially aimed at 'immigrants', is on the rise, and in the US, and increasingly in Europe, the state itself has become a major target. This book considers the varying trajectories of the 'extreme right' and 'populist' parties and focuses on the problems of responses to these trends, an issue which has hitherto been neglected in academic literature.

Todd Saunders (1969) is one of the most important young contemporary Canadian architects working internationally. His architecture, simple yet powerful, incorporates elements of his country's architectural identity – including the use of wood and carefully picked Modernist influences – bringing it at the same time into the 21st century with excellent execution, carefully chosen materials and a hands-on approach. Saunders (he lives and works in Bergen, Norway) has successfully executed work in both Canada, Norway, and Finland, creating architecture with a strong sense of northern identity, an individual approach that is informed by the strongness of natural landscape. The most important projects: Aurland Lookout, Long Studio, Fogo Island, Tower Studio, Fogo Island, Squish Studio, Fogo Island and Villa G. The first reference monograph on a remarkable young architect working in Scandinavia and Canada. The monograph provides interesting unpublished documents, curated by Jonathan Bell (Architecture Editor, Wallpaper* magazine) and Ellie Stathaki (Deputy Architecture Editor, Wallpaper* magazine) as well as three interviews by Olaf Gipser, Zita Cobb, and Brian MacKay-Lyons. The artwork of the book is by the international renowned graphic designer Henrik Nygren.

The first book to reevaluate the evocative and polarizing work of one of midcentury America's most significant architects Born to Japanese immigrant parents in Seattle, Minoru Yamasaki (1912–1986) became one of the towering figures of midcentury architecture, even appearing on the cover of Time magazine in 1963. His self-proclaimed humanist designs merged the modern materials and functional considerations of postwar American architecture with traditional elements such as arches and colonnades. Yamasaki's celebrated and iconic projects of the 1950s and '60s, including the Lambert–St. Louis Airport and the U.S. Science Pavilion in Seattle, garnered popular acclaim. Despite this initial success, Yamasaki's reputation began to decline in the 1970s with the mixed critical reception of the World Trade Center in New York, one of the most publicized projects in the world at the time, and the spectacular failure of St. Louis's Pruitt-Igoe Apartments, which came to symbolize the flaws of midcentury urban renewal policy. And as architecture moved in a more critical direction influenced by postmodern theory, Yamasaki seemed increasingly old-fashioned. In the first book to examine Yamasaki's life and career, Dale Allen Gyure draws on a wealth of previously unpublished archival material, and nearly 200 images, to contextualize his work against the framework of midcentury modernism and explore his initial successes, his personal struggles—including with racism—and the tension his work ultimately found in the divide between popular and critical taste.

Norway-based Todd Saunders is one of the most important contemporary Canadian architects working internationally. His simple yet powerful architecture incorporates elements of his home country's vernacular identity – including the use of wood and carefully picked Modernist influences – brought into the 21st century with excellent execution, quality materials and a hands-on approach. His most important projects include the Aurland Lookout in Norway and the series of artists' studios and a hotel on Fogo Island in Newfoundland. This second revised edition includes new projects and unpublished material. Edited by Jonathan Bell and Ellie Stathaki (respectively editor-at-large and architecture editor at Wallpaper), the book was designed by renowned graphic designer Henrik Nygren.

The aim of this book is to deepen the knowledge of dynamic evolution of professional practices (recomposition of knowledge and know-how, inter-relations, strategic positioning) taking place at the time of the injunction to energy efficiency in the design field, construction and management of real estate. From their experience feedback, the challenge of this book is to question the logic of innovation, to enlighten the dynamic learning and renewal of professional skills.

• New York Times bestseller • The 100 most substantive solutions to reverse global warming, based on meticulous

research by leading scientists and policymakers around the world "At this point in time, the Drawdown book is exactly what is needed; a credible, conservative solution-by-solution narrative that we can do it. Reading it is an effective inoculation against the widespread perception of doom that humanity cannot and will not solve the climate crisis. Reported by-effects include increased determination and a sense of grounded hope." —Per Espen Stoknes, Author, What We Think About When We Try Not To Think About Global Warming "There's been no real way for ordinary people to get an understanding of what they can do and what impact it can have. There remains no single, comprehensive, reliable compendium of carbon-reduction solutions across sectors. At least until now. . . . The public is hungry for this kind of practical wisdom." —David Roberts, Vox "This is the ideal environmental sciences textbook—only it is too interesting and inspiring to be called a textbook." —Peter Kareiva, Director of the Institute of the Environment and Sustainability, UCLA In the face of widespread fear and apathy, an international coalition of researchers, professionals, and scientists have come together to offer a set of realistic and bold solutions to climate change. One hundred techniques and practices are described here—some are well known; some you may have never heard of. They range from clean energy to educating girls in lower-income countries to land use practices that pull carbon out of the air. The solutions exist, are economically viable, and communities throughout the world are currently enacting them with skill and determination. If deployed collectively on a global scale over the next thirty years, they represent a credible path forward, not just to slow the earth's warming but to reach drawdown, that point in time when greenhouse gases in the atmosphere peak and begin to decline. These measures promise cascading benefits to human health, security, prosperity, and well-being—giving us every reason to see this planetary crisis as an opportunity to create a just and livable world.

This book highlights selected papers presented during the bi-annual World Renewable Energy Network's 2019 Med Green Forum. This international forum highlights the importance of growing renewable energy applications in two main sectors: Electricity Generation and Sustainable Building. The papers highlight the most current research and technological breakthroughs illustrating the viability of using renewable energy to satisfy energy needs. Coverage includes a broad range of renewable energy technologies and applications in all sectors – electricity production, heating and cooling, agricultural applications, water desalination, industrial applications, and transport. Presents leading-edge research in green building, sustainable architecture, and renewable energy; Covers a broad range of renewable energy technologies and applications in all sectors; Contains case studies and examples to enhance practical application of the technologies presented.

From the Great Pyramid of Giza and Hogwarts, to a fully functioning harpsichord and James May's LEGO house, man has never shied away from an extreme building challenge, and the LEGO builders of the twenty-first century are no different. Whether they're re-creating the works of ancient masters in brick form or building life-size superheroes, some LEGO fans are taking their passion for plastic to the extreme. Sarah Herman has brought together some of the world's most ambitious builders in a fact-filled showcase of truly mind-blowing models for this exciting illustrated book that will delight all AFOLs (adult fans of LEGO).

Resilience will be a defining quality of the twenty-first century. As we witness the increasingly turbulent effects of climate change, the multiple challenges of resource depletion and wage stagnation, we know that our current ways of living are not resilient. Our urban infrastructures, our buildings, our economies, our ways of managing and governing are still too tightly bound to models of unrestrained free-market growth, individualism and consumerism. Research has shown that the crises arising from climate change will become increasingly frequent and increasingly severe. It is also known that the effects of climate change are not evenly distributed across places and people, and neither are the resources needed to meet these challenges. We will need specific responses in place that engage with, and emerge from, citizens ourselves. This volume takes resilience as a transformative concept to ask where and what architecture might contribute. Bringing together cross-disciplinary perspectives from architecture, urban design, art, geography, building science and psychoanalysis, it aims to open up multiple perspectives of research, spatial strategies and projects that are testing how we can build local resilience in preparation for major societal challenges, defining the position of architecture in urban resilience discourse.

The software development ecosystem is constantly changing, providing a constant stream of new tools, frameworks, techniques, and paradigms. Over the past few years, incremental developments in core engineering practices for software development have created the foundations for rethinking how architecture changes over time, along with ways to protect important architectural characteristics as it evolves. This practical guide ties those parts together with a new way to think about architecture and time.

The new threshold for green building is not just low energy, it's net-zero energy. In The New Net Zero, sustainable architect Bill Maclay charts the path for designers and builders interested in exploring green design's new-frontier net-zero-energy structures that produce as much energy as they consume and are carbon neutral. In a nation where traditional buildings use roughly 40 percent of the total fossil energy, the interest in net-zero building is growing enormously--among both designers interested in addressing climate change and consumers interested in energy efficiency and long-term savings. Maclay, an award-winning net-zero designer whose buildings have achieved high-performance goals at affordable costs, makes the case for a net-zero future; explains net-zero building metrics, integrated design practices, and renewable energy options; and shares his lessons learned on net-zero teambuilding. Designers and builders will find a wealth of state-of-the-art information on such considerations as air, water, and vapor barriers; embodied energy; residential and commercial net-zero standards; monitoring and commissioning; insulation options; costs; and more. The comprehensive overview is accompanied by several case studies, which include institutional buildings, commercial projects, and residences. Both new-building and renovation projects are covered in detail. The New Net Zero is geared toward professionals exploring net-zero design, but also suitable for nonprofessionals

seeking ideas and strategies on net-zero options that are beautiful and renewably powered.

Architecture is an experience – with the intellect and with all our senses, in motion, and in use. But in order to actually discuss and assess it with relevance, a clarification of terms is essential in order to avoid the vagueness that often prevails when talking about architecture. This dictionary provides a vocabulary that allows the architecture discourse to go beyond the declaration of constructive relationships or the description of architectonic forms in familiar terms like "roof," "base," "wall," and "axis" or "proportion". The point is to describe the experience of architecture: how exactly does it contribute to the experience of a situation? For instance, the staging of an entrance situation, or the layout and visitor routes through a museum. From "context," through "guidance," "readability," "patina," "spatial structure," "symmetry" and "tectonics," to "width" (and "narrowness") or "window," the most important terms in architectural language are explained precisely and in detail.

The author outlines the major ideas and issues that have emerged in the growing movement of green architecture and sustainable design over the last thirty years. The book asks individuals to understand how the philosophy of sustainable design can affect their own work.

Re-readings 2 is a companion book to Re-readings, originally published in 2004. This second volume is testament to the growing interest and demand for clarification of the re-modelling, adaptation and transformation processes within the existing built environment. With increased interest in the sustainability and heritage agenda and emerging interest from non-European-centric areas of the world in this type of work, this book explores how the re-modelling of existing buildings is a sustainable and viable alternative to the construction of new buildings. Throughout this highly-illustrated book, drawings and photos of various projects from around the world highlight how the new fits into the existing. Case studies are analysed holistically, and include information on the practical issues and challenges of individual projects.

This familiar guide to information resources in the humanities and the arts, organized by subjects and emphasizing electronic resources, enables librarians, teachers, and students to quickly find the best resources for their diverse needs.

The classic work on the evaluation of city form. What does the city's form actually mean to the people who live there? What can the city planner do to make the city's image more vivid and memorable to the city dweller? To answer these questions, Mr. Lynch, supported by studies of Los Angeles, Boston, and Jersey City, formulates a new criterion—imageability—and shows its potential value as a guide for the building and rebuilding of cities. The wide scope of this study leads to an original and vital method for the evaluation of city form. The architect, the planner, and certainly the city dweller will all want to read this book.

This Intergovernmental Panel on Climate Change Special Report (IPCC-SREX) explores the challenge of understanding and managing the risks of climate extremes to advance climate change adaptation. Extreme weather and climate events, interacting with exposed and vulnerable human and natural systems, can lead to disasters. Changes in the frequency and severity of the physical events affect disaster risk, but so do the spatially diverse and temporally dynamic patterns of exposure and vulnerability. Some types of extreme weather and climate events have increased in frequency or magnitude, but populations and assets at risk have also increased, with consequences for disaster risk. Opportunities for managing risks of weather- and climate-related disasters exist or can be developed at any scale, local to international. Prepared following strict IPCC procedures, SREX is an invaluable assessment for anyone interested in climate extremes, environmental disasters and adaptation to climate change, including policymakers, the private sector and academic researchers.

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