

Biophilic And Bioclimatic Architecture Analytical Therapy For The Next Generation Of Passive Sustainable Architecture

"When nature inspires our architecture-not just how it looks but how buildings and communities actually function-we will have made great strides as a society. Biophilic Design provides us with tremendous insight into the 'why,' then builds us a road map for what is sure to be the next great design journey of our times." -Rick Fedrizzi, President, CEO and Founding Chairman, U.S. Green Building Council "Having seen firsthand in my company the power of biomimicry to stimulate a wellspring of profitable innovation, I can say unequivocally that biophilic design is the real deal.

Kellert, Heerwagen, and Mador have compiled the wisdom of world-renowned experts to produce this exquisite book; it is a must reading for scientists, philosophers, engineers, architects and designers, and-most especially-business people. Anyone looking for the key to a new type of prosperity that respects the earth should start here." -Ray C.

Anderson, founder and Chair, Interface, Inc. The groundbreaking guide to the emerging practice of biophilic design This book offers a paradigm shift in how we design and build our buildings and our communities, one that recognizes that the positive experience of natural systems and processes in our buildings and constructed landscapes is critical to

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human health, performance, and well-being. Biophilic design is about humanity's place in nature and the natural world's place in human society, where mutuality, respect, and enriching relationships can and should exist at all levels and should emerge as the norm rather than the exception. Written for architects, landscape architects, planners, developers, environmental designers, as well as building owners, *Biophilic Design: The Theory, Science, and Practice of Bringing Buildings to Life* is a guide to the theory, science, and practice of biophilic design. Twenty-three original and timely essays by world-renowned scientists, designers, and practitioners, including Edward O. Wilson, Howard Frumkin, David Orr, Grant Hildebrand, Stephen Kieran, Tim Beatley, Jonathan Rose, Janine Benyus, Roger Ulrich, Bert Gregory, Robert Berkebile, William Browning, and Vivian Loftness, among others, address:

- * The basic concepts of biophilia, its expression in the built environment, and how biophilic design connects to human biology, evolution, and development.
- * The science and benefits of biophilic design on human health, childhood development, healthcare, and more.
- * The practice of biophilic design-how to implement biophilic design strategies to create buildings that connect people with nature and provide comfortable and productive places for people, in which they can live, work, and study.

Biophilic design at any scale-from buildings to cities-begins with a few simple questions: How does the built environment affect the natural environment? How will nature affect human experience and aspiration? Most of all, how can we achieve sustained and reciprocal benefits between the two? This

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prescient, groundbreaking book provides the answers.

Tim Beatley has long been a leader in advocating for the "greening" of cities. But too often, he notes, urban greening efforts focus on everything except nature, emphasizing such elements as public transit, renewable energy production, and energy efficient building systems. While these are important aspects of reimagining urban living, they are not enough, says Beatley. We must remember that human beings have an innate need to connect with the natural world (the biophilia hypothesis). And any vision of a sustainable urban future must place its focus squarely on nature, on the presence, conservation, and celebration of the actual green features and natural life forms. A biophilic city is more than simply a biodiverse city, says Beatley. It is a place that learns from nature and emulates natural systems, incorporates natural forms and images into its buildings and cityscapes, and designs and plans in conjunction with nature. A biophilic city cherishes the natural features that already exist but also works to restore and repair what has been lost or degraded. In *Biophilic Cities* Beatley not only outlines the essential elements of a biophilic city, but provides examples and stories about cities that have successfully integrated biophilic elements--from the building to the regional level--around the world. From urban ecological networks and connected systems of urban greenspace, to green rooftops and green walls and sidewalk gardens, Beatley reviews the emerging practice of biophilic urban design and planning, and tells many compelling stories of individuals and groups working hard to transform cities from grey

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and lifeless to green and biodiverse.

Biophilic and Bioclimatic Architecture is a guide to innovative architectural design for architects, engineers and other specialists who are working with biophilic and bioclimatic architectural concepts. Biophilic and Bioclimatic Architecture has three parts:

- Part I focuses on the relationship between architecture and human needs and the creation process, demonstrating the meaning of architectural value in architectural hypothesis.
- Part II opens the way towards a new understanding of biophilic architecture as a response to the negative actions of humans and the negative effects of using natural resources.
- Part III shows the benefits of combining the effects of the climate with the notion of human comfort in bioclimatic architecture.

"The term biophilia was first used by German psychologist, Erich Fromm in *The Anatomy of Human Destructiveness* (1973). Derived from "bio" (life) and "philia" (friendly feeling toward), he described biophilia as "the passionate love of life and of all that is alive." This term was reintroduced by American biologist, Edward O. Wilson in *Biophilia* (1984) as "the innate tendency to focus on life and lifelike processes." Several years later, Wilson co-authored *The Biophilia Hypothesis* (1993) with social ecologist, Stephen Kellert to further define biophilia, our natural connection with nature. It was the biophilia hypothesis that led to the emergence of biophilic design. Stephen Kellert defined biophilic design as "the deliberate attempt to translate an understanding of the inherent human affinity to affiliate with natural systems and processes...into the design

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of the built environment.." Unfortunately this concept is not easily translated into design due to the psychological complexity of biophilia. Therefore it is considered a weak biological inclination that is dependent on the choice of humans to nurture their connection with nature. Although biophilia is difficult to understand and implement, when done so correctly, it promotes human health, wellbeing, and productivity. Addressing this issue, this thesis will focus on the promotion of biophilia and biophilic design through the creation of a living laboratory. With this goal in mind, a nature center will be designed to further the understanding of biophilia through observation and research, and application of biophilic design strategies. Located in the heart of a city, where greenery is sparse, this nature center will serve as a biophilic living laboratory for researchers and the surrounding community. The Flower City Nature Center in Rochester, New York, is a biophilic design solution that integrates architecture with nature. Analysis of biophilic metrics in green building standards and biophilic design features in case studies, produced a holistic set of design goals for this project. These biophilic design goals include: daylighting, natural ventilation, biophilic building design, biophilic site design, green materials, green education, energy conservation, and water conservation. Aligning with sustainable design principles, biophilic design focuses on enhancing, preserving, and restoring the natural environment, while promoting a connection with nature through hands-on learning."--Abstract.

This book offers practical and theoretical tools for more effective sustainable design

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solutions and for communicating sustainable design ideas to today's diverse stakeholders. It uses Integral Theory to make sense of the many competing ideas in this area and offers a powerful conceptual framework for sustainable designers through the four main perspectives of: Behaviours, Systems, Experiences and Cultures. It also uses human developmental theory to reframe sustainable design across four levels of complexity present in society: the Traditional, Modern, Postmodern, and Integral waves. Profuse with illustrations and examples, the book offers many conceptual tools including: - Twelve Principles of Integral Sustainable Design - Sixteen Prospects of Sustainable Design - Six Perceptual Shifts for Ecological Design Thinking - Five Levels of Sustainable Design Aesthetics - Ten Injunctions for Designing Connections to Nature Creation and access to green spaces promotes individual human health, especially in therapeutic contexts among those suffering traumatic events. But what of the role of access to green space and the act of creating and caring for such places in promoting social health and well-being? Greening in the Red Zone asserts that creation and access to green spaces confers resilience and recovery in systems disrupted by violent conflict or disaster. This edited volume provides evidence for this assertion through cases and examples. The contributors to this volume use a variety of research and policy frameworks to explore how creation and access to green spaces in extreme situations might contribute to resistance, recovery, and resilience of social-ecological systems.

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This book is proposed as both a general reading of the discipline for students in architecture and urban planning, and offers a variety of materials for professionals of local and international organizations. It brings together studies with new perspectives and relevant subjects from different geographical areas. The book gathers the contributions of international researchers and experts. It is divided into three parts and eight chapters: Part I, "Introduction to Housing Affairs," includes a chapter that discusses a general reading of housing as meaning and action in social, economic, and environmental city life. Part II, "Case Studies Upon Housing Policies," includes four chapters. It consists of many examples from different geographical areas and domains. Part III, "Housing Quality and Affordability," includes three chapters; housing quality, sustainability, and development are the main subjects for this part.

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The 8th International Conference on Sustainable Development and Planning is part of a series of biennial conferences on the topic of sustainable regional development which began in Greece in 2003. The papers included in these proceedings report on the latest advances from scientists specialising in the range of subjects included within sustainable development and planning. Planners, environmentalists, architects, engineers, policy makers and economists have to work together in order to ensure that planning and development can meet our present needs without compromising the ability of future generations. The use of modern technologies in planning gives us new potential to monitor and prevent environmental degradation. Problems related to development and planning, which affect both rural and urban areas, are present in all regions of the world and accelerated urbanisation has resulted in both the deterioration of the environment and quality of life. Urban development can also intensify problems faced by rural areas such as forests, mountain regions and coastal areas, which

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urgently require solutions in order to avoid irreversible damage. The papers in the book cover the following topics: City planning; Regional planning; Rural developments; Sustainability and the built environment; Sustainability indicators; Policies and planning; Environmental planning and management; Energy resources; Cultural heritage; Quality of life; Community planning and resilience; Sustainable solutions in emerging countries; Sustainable tourism; Learning from nature; Transportation Social and political issues and Community planning.

This book has been written to represent the efficient applications of sustainability in urban areas. The book intends to illustrate various techniques of action on sustainability on city conception, functions and conformation. This book is divided into four parts and nine chapters: Section I is entitled "Introduction to Sustainable Cities Concept" and contains one chapter "Introductory chapter: Overview of Sustainable Cities Theory and Practices," which discusses sustainability in cities in conception and practice. Section II is entitled "Energy and Environmental Analysis of Sustainable Cities Models." This includes four chapters. It expresses the effect of the environment and energy embodiment on city configuration and function. Section III is entitled "The Role of Transport in a Sustainable City." This part includes two chapters. Section IV is entitled "The influence of Social and Economic Factors in Urban Space Conception." It includes two chapters.

Sustainable Design for the Built Environment marks the transition of sustainable design

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from a specialty service to the mainstream approach for creating a healthy and resilient built environment. This groundbreaking and transformative approach introduces sustainable design in a clear, concise, easy-to-read format. This book takes the reader deep into the foundations of sustainable design, and creates a holistic and integrative approach addressing the social, cultural, ecological, and aesthetic aspects in addition to the typical performance-driven goals. The first section of the book is themed around the origins, principles, and frameworks of sustainable design aimed at inspiring a deeper, broader, and more inclusive view of sustainability. The second section examines strategies such as biophilia and biomimicry, adaptation and resilience, health and well-being. The third section examines the application of sustainability principles from the global, urban, district, building, and human scale, illustrating how a systems thinking approach allows sustainable design to span the context of time, space, and varied perspectives. This textbook is intended to inspire a new vision for the future that unites human activity with natural processes to form a regenerative, coevolutionary model for sustainable design. By allowing the reader an insightful look into the history, motivations, and values of sustainable design, they begin to see sustainable design, not only as a way to deliver green buildings, but as a comprehensive and transformative meta-framework that is so needed in every sector of society. Supported by extensive online resources including videos and PowerPoints for each chapter, this book will be essential reading for students of sustainability and sustainable design.

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This book is intended as both an introduction to the discipline for students of landscape architecture, architecture, and planning, and a source of continuing interest for more experienced environmental designers. The book offers various materials for landscape architects and other planning professionals. The book is divided into 4 parts and 17 chapters. Part I "Introduction to the Landscape Architecture Theme" is general reading on landscape architecture. Part II "Art's Replica and Landscape Architecture Model" includes three chapters. This part represents a theoretical and sensitive visual interpretation of landscape architecture. Part III "Sustainable Prototypes of a Contemporary Landscape Architecture" includes four chapters, with sustainability as a concept and guiding thought. Part IV "Landscape Architecture Around the World (Study Cases)" includes 9 chapters with many examples from different geographical practical cases.

Our built environments can affect us in many subtle ways. Simply sensing fresh air and natural light or seeing greenery and open space can uplift our mood and improve our wellbeing. But these healthy environments are increasingly difficult to achieve in practice. The vital collaboration between the many people involved in designing and producing buildings is often not achieved. Then there is the pressing need to reduce waste and pollution. Managing these demands is a challenge, especially in a traditional climate of short-term thinking. *Designing Buildings for People* explores how we can learn from buildings of the past, vernacular architecture and the natural world around

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us, while still harnessing the opportunities presented by technology, to think creatively, work collaboratively and exercise a transdisciplinary approach. The book features over 200 images, exhibiting the acclaimed work of internationally recognized and research-led designers from the fields of architecture, engineering and management. It is a prime reference work for professionals and students who want to build the sustainable buildings of the future.

This book examines bioclimatic design with a focus on the application of climate adaptability in the design of future buildings and renovation of existing energy-efficient buildings. It addresses the challenge of how to construct and renovate buildings so that they maintain desired performance even as the climate changes in future decades. The book is divided into six chapters that guide the reader from basic concepts to discussions on specific aspects of bioclimatic design, including: Why do we construct buildings and why do they matter? Where should we get started with bioclimatic design? The opportunities and potential held by climate for the by bioclimatic architecture and design. How and why should we design bioclimatic buildings to accommodate future climatic conditions? Climatic changes and implications for the bioclimatic design of buildings. The author presents an overview of effective bioclimatic design strategies that enable climate-adaptable buildings. He also addresses the problems of designing with climate, which are relevant for all types of building design—in particular, the implications for bioclimatic buildings that are intrinsically connected to the

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climate they were adapted to. The book combines representative examples, diagrams, and illustrations, and concludes each chapter by reviewing the most important findings and concepts discussed. The book offers a valuable source of information for researchers and architectural engineers, who will gain essential insights into the process of using the available tools and data to design buildings that can respond to future climate challenges, as well as a general introduction into the field of bioclimatic building design. The book will also be of interest to graduate students and architects, as it approaches bioclimatic design with a particular focus on the analytical design process for such buildings.

Does energy consumption influence architectural style? Should more energy-efficient buildings look different? Can that "look" be used to explain or enhance their performance? Architecture and Energy provides architects and architectural theorists with more durable arguments for environmental design decisions, arguments addressing three different scales or aspects of contemporary construction. By drawing together essays from the leading experts in the field, this book engages with crucial issues in sustainable design, such as: The larger role of energy in forming the cultural and economic systems in which architecture is conceived, constructed, and evaluated The different measures and meanings of energy "performance" and how those measures are realized in buildings The specific ways in which energy use translates into the visible aspects of architectural style. Drawing on research from the UK, US,

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Europe, and Asia the book outlines the problems surrounding energy and architecture and provides the reader with a considered overview of this important topic.

This book has been written to present elementary practical and efficient applications in saving energy concept, as well as propose a solitary action for this category of topics.

The book aims to illustrate various methods in treatment the concept of thermal insulation such as processes and the attempt to build an efficient passive building model.

FULLY ILLUSTRATED, UPDATED GUIDE TO THE STRATEGIC DESIGN OF GREEN BUILDINGS In the tradition of *Building Construction Illustrated*, Francis D.K. Ching and Ian M. Shapiro offer a fully illustrated guide to the theory and practice of sustainable design. This guide provides architects, designers, and builders in the green design professional community a framework and detailed strategies for designing substantively green buildings. With a focus on sustainable sites, approaching and reaching net-zero energy, low and zero-water usage, minimum-impact materials and superior indoor environmental quality, this guide explains why we need to build green, as well as green building theory and advancements in the industry. This Second Edition includes: All-new case studies featuring geographically diverse buildings with proven zero energy performance Expanded coverage of zero energy building design, as well as zero water and zero waste buildings Practical guidance for the schematic design of high-performance buildings, heating and hot water system selection, building envelope details, and integrating renewable energy Advanced strategies, such as the concept of shape efficiency, and the optimal location for stairwells in buildings Additional strategies for

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affordability in green design and construction Updated references to the latest codes and standards This Second Edition of Green Building Illustrated is an excellent resource for professionals, students and those interested in the design and construction of sustainable buildings.

A Practical Exam Guide for the ARE 5.0 Programming & Analysis (PA) Division! To become a licensed architect, you need to have a proper combination of education and/or experience, meet your Board of Architecture's special requirements, and pass the ARE exams. This book provides an ARE 5.0 exam overview, suggested reference and resource links, exam prep and exam taking techniques, tips and guides, and critical content for the ARE 5.0 Programming & Analysis (PA) Division. More specifically this book covers the following subjects: · ARE 5.0, AXP, and education requirements · ARE 5.0 exam content, format, and prep strategies · ARE 5.0 credit model and the easiest way to pass ARE exams · Allocation of your time and scheduling · Timing of review: the 3016 rule; memorization methods, tips, suggestions, and mnemonics · Environmental & contextual conditions · Codes & regulations · Site analysis & programming · Building analysis & programming This book will help you pass the PA division of the ARE 5.0 and become a licensed architect! Can you study and pass the ARE 5.0 Programming & Analysis (PA) exam in 2 weeks? The answer is yes: If you study the right materials, you can pass with 2 weeks of prep. If you study our book, "Programming & Analysis (PA) ARE 5.0 Exam Guide (Architect Registration Examination)" & "Programming & Analysis (PA) ARE 5.0 Mock Exam (Architect Registration Examination)," you have an excellent chance of studying and passing the ARE 5.0 Programming & Analysis (PA) division in 2 weeks. We have added many tips and tricks that WILL help you pass the exam on your first try. Our goal is

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to take a very complicated subject and make it simple. "Programming & Analysis (PA) ARE 5.0 Exam Guide (Architect Registration Examination)" & "Programming & Analysis (PA) ARE 5.0 Mock Exam (Architect Registration Examination)" will save you time and money and help you pass the exam on the first try! ArchiteG®, Green Associate Exam Guide®, and GreenExamEducation® are registered trademarks owned by Gang Chen. ARE®, Architect Registration Examination® are registered trademarks owned by NCARB.

The position of spy fiction is largely synonymous in popular culture with ideas of patriotism and national security, with the spy himself indicative of the defence of British interests and the preservation of British power around the globe. This book reveals a more complicated side to these assumptions than typically perceived, arguing that the representation of space and power within spy fiction is more complex than commonly assumed. Instead of the British spy tirelessly maintaining the integrity of Empire, this volume illustrates how spy fiction contains disunities and disjunctions in its representation of space, and the relationship between the individual and the state in an era of declining British power. Focusing primarily on the work of Graham Greene, Ian Fleming, Len Deighton, and John le Carre, the volume brings a fresh methodological approach to the study of spy fiction and Cold War culture. It presents close textual analysis within a framework of spatial and sovereign theory as a means of examining the cultural impact of decolonization and the shifting geopolitics of the Cold War. Adopting a thematic approach to the analysis of space in spy fiction, the text explores the reciprocal process by which contextual history intersects with literature throughout the period in question, arguing that spy fiction is responsible for reflecting, strengthening and, in some cases, precipitating cultural anxieties over decolonization and the end of Empire. This study promises

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to be a welcome addition to the developing field of spy fiction criticism and popular culture studies. Both engaging and original in its approach, it will be important reading for students and academics engaged in the study of Cold War culture, popular literature, and the changing state of British identity over the course of the latter twentieth century.

This accessible and engaging text is the first to offer a comprehensive critical history and analysis of the greening of architecture through accumulative reduction of negative environmental effects caused by buildings, urban designs and settlements. Describing the progressive development of green architecture from 1960 to 2010, it illustrates how it is ever evolving and ameliorated through alterations in form, technology, materials and use and it examines different places worldwide that represent a diversity of cultural and climatic contexts. This book has been written to represent the efficient applications of sustainability upon building designs. The book intends to illustrate various techniques of action of sustainability on building conceptions. The book is divided into four parts and eight chapters. Part I "Introduction into Target Theme" includes a chapter with title "Introductory Chapter." It makes an overview of the meaning and the target of sustainable building and sustainable building material. Part II "Sustainable Building Design, Process, and Management" discusses many forms and concepts of sustainable building and includes three chapters. Part III "Sustainable Building by Using Energy Efficiency in Building Design" includes one chapter. Part IV "Sustainability in Building Materials: Study Cases" includes three chapters.

Written by a leading proponent of biophilic design, this is the only practical guide to biophilic design principles for interior designers. Describing the key benefits, principles and processes of biophilic design, *Nature Inside* illustrates the implementation of biophilic design in interior

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design practice, across a range of international case studies – at different scales, and different typologies. Starting with the principles of biophilic design, and the principles and processes in practice, the book then showcases a variety of interior spaces – residential, retail, workplace, hospitality, education, healthcare and manufacturing. The final chapter looks ‘outside the walls’, giving a case study at the campus and city scale. With practical guidance and real-world solutions that can be directly-applied in day-to-day practice, this is a must-have for designers interested in applying biophilic principles.

This book addresses the emergence of biophilic design, a form of design that looks at people’s intrinsic connection with nature. There is no denying that biophilic design is rapidly expanding globally as an effective response to pressing issues in urban areas and built environments. From being a term few had heard of in 2012, when the author’s research began, to one that is currently trending in a broad range of disciplines, the story of its emergence has never been properly told. The story of the emergence of biophilic design is the story of a social movement and how a gathering of people with a common interest and passion can spark a global trend. The book and the stories within are not only engaging but also informative and educational, offering readers an in-depth understanding of what biophilic design is all about, and how to promote its implementation in their own built environment. Hopefully, they will inspire people to act, to campaign and to implement initiatives in their urban environment, with the confidence that they are capable of making a difference. The author spent three years researching the emergence of biophilic design, and why and how it was driven by certain people who championed the concept. Part of the author’s research involved a three-month tour of ten North American cities, during which she interviewed 26 key players.

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These people ranged from community leaders, landscape architects, and academics, to the CEOs of NGOs and government leaders. The result is a collection of stories that illustrate the evolution of biophilic design, and how it was frequently born from a passion for, belief in and love of nature, as well as a response to an urban crisis.

This engaging study discusses ways in which architectural forms emulate some archetypal settings that humans have found appealing--and useful for survival--from ancient times to the present. 119 photos. 6 line figures.

This book has been prepared to embody the major and efficient applications of the different duties and the role of sustainability in urban planning and design, by a new reading of the city structure and composition, as well as offering a solid and clear concept for this kind of science. The book aims to illustrate various theories and methods of the treatment of the modern ideas of metropolitan life. The book is divided into two parts and contains 23 chapters.

"This publication offers practical advice and inspiration for ensuring that nature in the city is more than infrastructure--that it also promotes well-being and creates an emotional connection to the earth among urban residents. Divided into six parts, the Handbook begins by introducing key ideas, literature, and theory about biophilic urbanism. Chapters highlight urban biophilic innovations in more than a dozen global cities. The final part concludes with lessons on how to advance an agenda for urban biophilia and an extensive list of resources."--Publisher.

Serenity is becoming alarmingly absent from our daily existence, especially within the

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urban context. Time is dense and space is tumultuous. The idea of the serene has gained currency in postmodern discussions, and when combined with urbanism conjures questions, even contradictions, as the two ideas seem improbable yet their correspondence seems so inherently desirable. Integrated, these two constructs present design challenges as they manifest in differing ways across the rural–urban transect. In response, Part I of this book establishes the theoretical framework through different contemporary perspectives, and concludes with a clear explanation of a theory of serene urbanism. The positive characteristics of urbanism and beneficial qualities of the serene are explored and related to sustainability, biophilia, placemaking and environmental design. Both principles and examples are presented as compelling portraits for the proposal of these new urban landscapes. Part II of the work is an in-depth exploration and analysis of serene urban ideas related to the intentional community being created outside of Atlanta, Georgia, USA. "Serenbe" is the name given to this place to commemorate the value and nuance between the serene and urban.

Collana STUDI E RICERCHE DI ARCHITETTURA del Dipartimento di Architettura Università degli Studi G. d'Annunzio, Chieti-Pescara, diretta da Paolo Fusero Questo libro raccoglie i risultati scientifici di un importante Protocollo di intesa firmato dal Dipartimento di Architettura dell'Università G. d'Annunzio e il Comune di Pescara inerente gli studi e le ricerche sulle aree di trasformazione strategica della città. Il primo

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volume contiene la “Vision”, ossia l’idea di città del futuro rappresentata attraverso l’individuazione di obiettivi strategici da perseguire nel medio-lungo termine. Sempre nel primo volume sono sintetizzati i progetti elaborati nel corso della Summer School 2015 su dieci aree strategiche della città, le grandi occasioni urbane su cui Pescara gioca le sue carte di competitività territoriale per gli anni a venire. Nel secondo volume sono raccolti una ventina di Dossier di ricerca applicata al caso di studio pescarese inerenti tematiche scientifiche multidisciplinari. Una lettura d’insieme del lavoro fa emergere un quadro interessante sullo stato di avanzamento disciplinare intorno al tema della Rigenerazione Urbana, intesa non solo come interventi edilizi a consumo di suolo zero, ma anche come insieme sistematico di azioni con valenze economiche, ma anche sociali, culturali, etiche, capaci addirittura di incidere sui comportamenti dei cittadini stimolandone nuove sensibilità. This book illustrates the scientific results of the studies and researches on strategic transformation areas in the city of Pescara. The studies were performed as part of the important Memorandum of Understanding signed between the Department of Architecture of the Università G. d’Annunzio and the Pescara Municipality. The first volume focuses on the ‘Vision’, i.e., the city of the future concept involving the establishment of strategic medium-to-long term objectives. The first volume also provides concise information about the projects for the ten strategic urban areas drafted during the Summer School 2015; these are the ten most important urban opportunities Pescara believes will make the city territorially

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competitive in the years to come. The second book illustrates the roughly twenty research Dossiers focusing on the multidisciplinary scientific topics applied to the Pescara case studies. A comprehensive interpretation of the studies and researches paints an interesting picture of disciplinary progress on the topic of Urban Revitalisation, considered not only as zero land consumption construction, but also as an orderly ensemble of economic, social, cultural and ethical actions capable of influencing the behaviour of the city's inhabitants and stimulating new sensibilities. CONTRIBUTENTI Ud'A Filippo Angelucci, Massimo Angrilli, Ottavia Aristone, Elianora Baldassarri, Antono Basti, Samuele Biondi, Stefania Camplone, Sebastiano Carbonara, Stefano D'Avino, Gianfranco De Matteis, Giuseppe Di Bucchianico, Massimo Di Nicolantonio, Michele Di Sivo, Matteo di Venosa, Susanna Ferrini, M. Cristina Forlani, Cynthia Ghelli, Adriano Ghisetti Giavarina, Raffaele Giannantonio, Daniela Ladiana, Michele Lepore, Antonio Marano, Caterina Palestini, Rosario Pavia, Lorenzo Pignatti, Domenico Potenza, Donatella Radogna, Piero Rovigatti, Vincenzo Sepe, Lucia Serafini, Enrico Spacone, Alberto Ulisse, Paolo Urbani, Ivo Vanzi, Claudio Varagnoli, Clara Verazzo

A gorgeously illustrated, accessible book that provides a holistic summary of the key elements for good biophilic design

This book brings together the views of some of the most creative scientists of our time, each attempting to amplify and refine the concept of biophilia. Contributors to this

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volume include Jared Diamond, Aaron Katcher, Richard Nelson and others.

In the age of corporate responsibility, green technology and sustainability continue to grip the consciousness of business and academic institutions. However, development of appropriate business-driven green applications requires an awareness of best practices of the green agenda. Green Technology Applications for Enterprise and Academic Innovation addresses the importance of green technology and sustainability for technology, enterprise, and academic innovation in energy management, renewable energy, and carbon reduction strategies. This book acts as the bridge for practitioners, academia, businesses, industrialists, governmental executives, and students seeking research in this emerging area.

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This volume discusses the climate responsiveness of sustainable architecture design and technology in China, Japan, Singapore, and South Korea in recent years, addressing concepts and applications in urban planning, building design, and structural performance evaluation. The four sections of the text cover the theory and implementation of sustainable architecture within various geographic boundaries and contexts, offering an interdisciplinary assessment of the challenges faced in urban areas at different climate zones. The main topics

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covered are: 1) urban ecological restoration under the influence of climate environment; 2) health and human considerations of building and environment; 3) prototype optimization of sustainable building, and 4) feedback of building performance and design evaluation. The book is intended to be a contribution to the growing body of knowledge on sustainable architecture for applicable use by practitioners, city planners, field researchers, and building operators in building design, construction, usage, operation, and maintenance.

We are living at the dawn of what has been termed ‘the fourth paradigm of science,’ a scientific revolution that is marked by both the emergence of big data science and analytics, and by the increasing adoption of the underlying technologies in scientific and scholarly research practices. Everything about science development or knowledge production is fundamentally changing thanks to the ever-increasing deluge of data. This is the primary fuel of the new age, which powerful computational processes or analytics algorithms are using to generate valuable knowledge for enhanced decision-making, and deep insights pertaining to a wide variety of practical uses and applications. This book addresses the complex interplay of the scientific, technological, and social dimensions of the city, and what it entails in terms of the systemic implications for smart sustainable urbanism. In concrete terms, it explores the interdisciplinary

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and transdisciplinary field of smart sustainable urbanism and the unprecedented paradigmatic shifts and practical advances it is undergoing in light of big data science and analytics. This new era of science and technology embodies an unprecedentedly transformative and constitutive power—manifested not only in the form of revolutionizing science and transforming knowledge, but also in advancing social practices, producing new discourses, catalyzing major shifts, and fostering societal transitions. Of particular relevance, it is instigating a massive change in the way both smart cities and sustainable cities are studied and understood, and in how they are planned, designed, operated, managed, and governed in the face of urbanization. This relates to what has been dubbed data-driven smart sustainable urbanism, an emerging approach based on a computational understanding of city systems and processes that reduces urban life to logical and algorithmic rules and procedures, while also harnessing urban big data to provide a more holistic and integrated view or synoptic intelligence of the city. This is increasingly being directed towards improving, advancing, and maintaining the contribution of both sustainable cities and smart cities to the goals of sustainable development. This timely and multifaceted book is aimed at a broad readership. As such, it will appeal to urban scientists, data scientists, urbanists, planners, engineers, designers, policymakers, philosophers of science,

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and futurists, as well as all readers interested in an overview of the pivotal role of big data science and analytics in advancing every academic discipline and social practice concerned with data-intensive science and its application, particularly in relation to sustainability.

Buku ini menjelaskan secara sistematis pengetahuan, konsep, strategi, aplikasi, dan pengembangan arsitektur bioklimatik untuk nyaman termal alami. Urutan pembahasan mencakup pemahaman arsitektur bioklimatik; kesemestaan pengetahuan arsitektur bioklimatik; kesetempatan tropis bioklimatik; tradisi bioklimatik vernakular; urai-rangkai kajian bioklimatik; inovasi nyaman termal bioklimatik serta arsitektur bioklimatik masa depan. Pemahaman arsitektur bioklimatik bertujuan menggali nilai-nilai kenyamanan sebagai upaya menjalin keberlanjutan nilai manusiawi dan alami pada karya arsitektur negeri dari masa ke masa. istilah Sains Arsitektur Negeri merangkum tentang arsitektur setempat yang merupakan semangat baru untuk menemukenali desain pasif pada arsitektur di masa lalu, menumbuh kembangkannya di masa kini dan menjamin ketepatan gunaannya di masa depan. Semesta pengetahuan bioklimatik diawali dengan kriteria dasar yang mengarah pada konsep dan model bangunan bioklimatik. Kesetempatan tropis panas lembap pada kepulauan antara dua benua dan dua samudera memberikan karakter iklim dan konsep kenyamanan

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termal yang spesifik. Tradisi bioklimatik vernakular menunjukkan adanya elemen dan strategi desain pasif pada arsitektur masa lalu yang tumbuh berkembang selama kurun waktu yang panjang. Hal ini menjadi sumber ide, inisiatif, inovasi, implementasi, dan integrasi secara kontemporer dan ilmiah. Teknik urai-rangkai atau secara ilmiah disebut riset dan desain melalui pengumpulan data, validasi, analisis, temuan, hasil, dan pembahasan merupakan proses inovatif untuk mencapai nyaman termal – Keluasan rancang hangun desain bioklimatik dapat diterapkan dengan cepat, tetapi perubahan tuntutan kebutuhan kenyamanan serta lingkungan binaan memerlukan inovasi lebih lanjut. Sebagai penutup, arsitektur bioklimatik menjadi gerak dasar keberlanjutan dan upaya rnemperjuangkan kelestarian alam (era ecology) di tengah perkembangan era industry 4.0 dan era society 5.0 yang cepat untuk masa depan arsitektur negeri yang lebih baik.

It is clear that the climate is changing and ecosystems are becoming severely degraded. Humans must mitigate the causes of, and adapt to, climate change and the loss of biodiversity, as the impacts of these changes become more apparent and demand urgent responses. These pressures, combined with rapid global urbanisation and population growth mean that new ways of designing, retrofitting and living in cities are critically needed. Incorporating an

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understanding of how the living world works and what ecosystems do into architectural and urban design is a step towards the creation and evolution of cities that are radically more sustainable and potentially regenerative. Can cities produce their own food, energy, and water? Can they be designed to regulate climate, provide habitat, cycle nutrients, and purify water, air and soil? This book examines and defines the field of biomimicry for sustainable built environment design and goes on to translate ecological knowledge into practical methodologies for architectural and urban design that can proactively respond to climate change and biodiversity loss. These methods are tested and exemplified through a series of case studies of existing cities in a variety of climates.

Regenerative Urban Design and Ecosystem Biomimicry will be of great interest to students, professionals and researchers of architecture, urban design, ecology, and environmental studies, as well as those interested in the interdisciplinary study of sustainability, ecology and urbanism.

This book has been prepared to embody the major and efficient applications of the different duties and roles of grasses in our life, as well as offered a solid concept for this kind of science. The book aims to illustrate various ideas, methods and how it is treated in the agronomic process for different forms of grasses in human life.

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