

Critical History And Survey Of Contemporary Sustainable Architecture And Urban: Designing for a Greener Future

The world is rapidly urbanizing, with over half of the global population living in cities, a number projected to increase even further in the coming decades. As cities continue to grow, so do the environmental challenges they face, such as pollution, waste, and climate change. In response to these issues, sustainable architecture and urban planning have become crucial in designing a greener future.

The Emergence of Sustainable Architecture

Sustainable architecture has its roots in the early 20th century when architects like Frank Lloyd Wright emphasized harmonious integration with the natural environment. However, it was not until the 1970s that sustainability gained widespread recognition as a key principle in architectural design.

During the oil crisis of the 1970s, energy efficiency became a primary concern, leading to the development of passive solar design and green building practices. The concept of sustainability expanded beyond energy conservation to incorporate broader environmental and social considerations.



The Greening of Architecture: A Critical History and Survey of Contemporary Sustainable Architecture and Urban Design (Design Research in Architectur) by A. Senem Deviren (1st Edition, Kindle Edition)

★★★★★ 5 out of 5

Language : English

File size : 39137 KB

Text-to-Speech : Enabled
Screen Reader : Supported
Enhanced typesetting : Enabled
Print length : 218 pages



Contemporary sustainable architecture aims to minimize the impact of buildings on the environment, from their construction to their operational stage. It integrates renewable materials, energy-efficient technologies, and innovative design strategies to create spaces that are not only visually appealing but also environmentally friendly.

The Guiding Principles of Sustainable Architecture

There are several key principles that guide sustainable architectural design:

1. **Energy Efficiency:** Sustainable buildings use energy-efficient systems and materials to reduce their carbon footprint and promote renewable energy sources.
2. **Water Conservation:** Implementing water-efficient systems, such as rainwater harvesting and greywater recycling, helps minimize water consumption.
3. **Waste Reduction:** Sustainable architecture focuses on minimizing waste generation during the construction process and promoting recycling and waste management.
4. **Site Selection:** Choosing an appropriate location that maximizes access to public transportation, reduces the need for vehicular travel, and preserves open spaces is a fundamental aspect of sustainable design.

5. **Healthy Indoor Environment:** Employing proper ventilation, natural lighting, and non-toxic materials enhances the well-being of occupants.

Urban Planning for Sustainability

While sustainable architecture addresses the environmental impact of individual buildings, urban planning takes a broader perspective, considering the sustainable development of entire cities or neighborhoods. Sustainable urban planning pursues the creation of livable communities that prioritize the interconnectedness of social, economic, and environmental aspects.

Sustainable urban planning seeks to minimize urban sprawl, promote mixed land-use, and encourage transit-oriented development. By creating compact, walkable communities, cities can reduce the dependency on private vehicles and encourage cycling and public transportation.

The integration of green spaces, parks, and urban agriculture is also crucial in urban planning for sustainability. Green spaces not only enhance the aesthetic appeal of cities but also contribute to improving air quality and mitigating the urban heat island effect.

Notable Examples of Contemporary Sustainable Architecture

In recent years, sustainable architecture has gained significant momentum worldwide. Numerous remarkable architectural projects showcase the principles of sustainability in their design:

- **The Edge, Amsterdam:** Known as the greenest building in the world, The Edge features energy-efficient systems, smart lighting, and the largest solar power facade in Europe.

- One Angel Square, Manchester: Designed to be one of the most environmentally sustainable offices in the world, this building utilizes natural ventilation, photovoltaic panels, and an advanced energy management system.
- San Francisco International Airport, Terminal 2: This airport terminal showcases sustainable construction materials and incorporates natural lighting and energy-efficient systems to reduce energy consumption.

The Future of Sustainable Architecture and Urban Planning

Sustainable architecture and urban planning offer a promising vision for a greener future. As technology advances, architects and urban planners will have access to more innovative and sustainable solutions.

Emerging technologies, such as building-integrated photovoltaics and smart grids, hold the potential to revolutionize the energy efficiency of buildings and cities. Additionally, the adoption of biophilic design, which emphasizes connections with the natural environment, can further enhance the sustainable qualities of structures and urban spaces.

In , sustainable architecture and urban planning are essential tools in addressing the environmental challenges faced by cities. By incorporating energy-efficient systems, minimizing waste, and integrating green spaces, architects and urban planners can design for a greener future. The transition towards sustainable practices is crucial, ensuring that cities become not only more environmentally friendly but also healthier and more enjoyable places to live.

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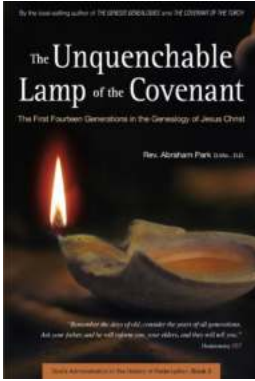


This accessible and engaging text is the first to offer a comprehensive critical history and analysis of the greening of architecture through accumulative reduction of negative environmental effects caused by buildings, urban designs and settlements. Describing the progressive development of green architecture 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.



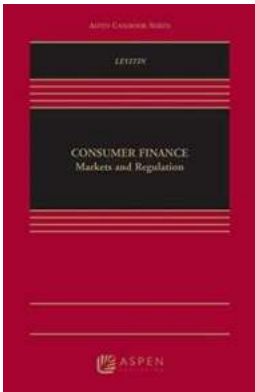
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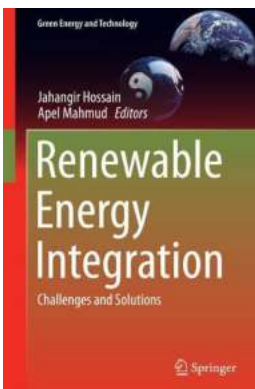
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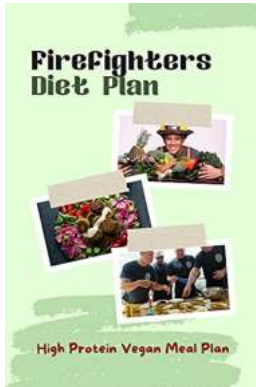
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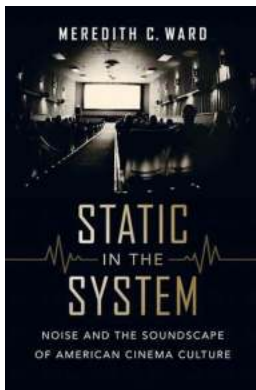
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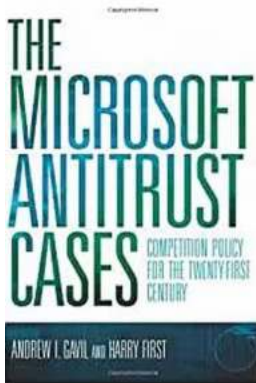
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