

Research on the Innovative Reuse and Aesthetic Expression of Waste Materials in Interior Decoration

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Abstract

Under the "dual carbon" goals and the concept of green and sustainable development, this paper studies the innovative reuse and aesthetic expression of waste materials in interior decoration in response to the problems of high resource consumption and prominent homogeneity in the industry. By using methods such as literature research, case analysis, and practical exploration, this paper sorts out the classification, characteristics, and application value of waste materials, summarizes three reuse models: modularization, artistry, and personalization, and explores four aesthetic expression paths: texture, ecology, narrative, and simplicity. Through reasonable design and transformation, waste materials can achieve the unification of ecological, economic, and aesthetic values, which can not only reduce resource waste and lower decoration costs but also enhance the individuality and humanistic warmth of the space. The application is feasible and highly beneficial. Currently, there are still problems such as insufficient aesthetics, limited space adaptability, and high promotion difficulty in this field. These issues can be addressed by improving the recycling system, strengthening technological research and development, and enhancing public awareness to promote large-scale application.

Keywords

Intangible Cultural Heritage; Digital Technology; Display Design.

1. Introduction

Under the "dual carbon" goals and the concept of green and sustainable development, the interior decoration industry is characterized by high resource consumption and a prominent problem of homogenization. The resourceful utilization of waste materials has become an important way to break through this situation. This paper conducts research on the innovative reuse and aesthetic expression of waste materials in interior decoration. Based on the theories of green design and circular economy, it clarifies the definition, classification and application value of waste materials, and constructs a modular, artistic and personalized reuse model. It explores four aesthetic expression paths: texture, ecology, narrative and simplicity, and verifies the feasibility through practice. The aim is to provide theoretical and practical support for the industry's green transformation, resource conservation and the creation of personalized spaces[1].

2. Research Status, Relevant Concepts and Theoretical Foundations of Reusing Waste Materials at Home and Abroad.

Relevant concepts and theoretical foundations are the core support of this article, playing a key role in connecting the introduction and guiding practice. The innovative reuse and aesthetic expression of waste materials in interior decoration require clear concept definition

to set research boundaries, rely on solid theories to ensure the scientific and rigorous nature of the research, define the connotation and extension of core concepts, unify concept cognition, and then systematically sort out the three major theories of green design, circular economy, and interior aesthetics, and analyze their intrinsic connections with the research topic.

2.1. Current Research Status at Home and Abroad

Research on indoor reuse of waste materials abroad started early and has developed a complete system encompassing concepts, technologies, and practices. With circular economy and green design as its core, it focuses on the integration of full lifecycle management and aesthetics. Relying on classic cases and policy support, and combining digital technology to achieve efficient resource utilization, it balances ecological, economic, and aesthetic values. Domestically, under the dual carbon goals, rapid development has been seen, with cases such as Beijing 798 emerging, exploring modular and artistic application paths. However, there are still issues such as insufficient technical support, inconsistent process standards, and difficulties in promotion. Currently, efforts are being made to improve the recycling system, strengthen innovative design, and promote the transformation of waste materials from simple reuse to innovative value-added, thereby facilitating the green and low-carbon development of the industry.

2.2. Definition, Classification, and Characteristics of Waste Materials.

Waste materials are not worthless castoffs, but materials that have lost their original functions but can be used for interior decoration after recycling and processing, generated during production, life, construction, and other processes. Their core characteristics are reusability and potential value. Combined with interior decoration scenarios, they can be divided into four categories: architectural, domestic, industrial, and cultural, covering discarded bricks, old furniture, metal components, etc. They are low-cost, diverse, malleable, and cultural, with low recycling costs and diverse material forms. They can be reshaped through processing and come with traces of use and imprints of the era, providing rich materials for interior decoration and endowing spaces with cultural connotations, adapting to various decoration needs.

2.3. The Connotation of Innovative Reuse of Interior Decoration.

The innovative reuse of waste materials in interior decoration refers to breaking through the traditional perception that "waste is discarded" and taking the concept of green sustainable development as the core. Combining the functional and aesthetic needs of interior decoration, it transforms waste materials into decorative elements that meet interior decoration standards and possess both practicality and aesthetics through design innovation, technical processing, and morphological reshaping, thus realizing the secondary enhancement and recycling of material value. The core is not simply "recycling and reuse", but "innovative transformation", which is mainly reflected in three levels: First, concept innovation, abandoning the excessive dependence on new materials in traditional decoration and establishing a green design concept of "turning waste into treasure", integrating resource recycling into the entire process of decorative design; second, method innovation, breaking the original usage scenarios and functional limitations of waste materials, adapting them to different styles and functions of interior spaces through modular design, artistic transformation, personalized customization, etc.; third, value innovation, not only realizing the ecological and economic value of waste materials, but also endowing them with aesthetic and cultural value through design, making waste materials an important carrier for conveying green concepts and highlighting spatial personality, thus achieving the unity of "practicality, environmental protection, and aesthetics".

2.4. The Core of Aesthetic Expression in Interior Decoration.

The core of aesthetic expression in interior decoration using waste materials lies in leveraging the inherent characteristics of the materials, aligning with spatial requirements, and conveying diverse aesthetic sensations through rational design, distinguishing itself from traditional standardized aesthetics. It encompasses four dimensions: Texture aesthetics respects the original texture and usage marks of materials, highlighting the natural and original beauty; Ecological aesthetics closely adheres to the concept of low carbon, conveying environmental protection values; Narrative aesthetics explores the culture and emotions behind materials, infusing warmth into the space; Minimalist aesthetics abandons excessive decoration, emphasizing the inherent beauty of materials. The integration of these four dimensions not only leverages the strengths of the materials themselves but also satisfies the aesthetic and emotional needs of the space, achieving the unity of practicality and aesthetics.

3. Innovative Reuse Models of Waste Materials in Interior Decoration.

Combining green design concepts with circular economy requirements, and based on the functional and aesthetic needs of interior decoration, three differentiated innovative reuse models are constructed according to the characteristics of waste materials to maximize material value, taking into account practicality, aesthetics, and sustainability. These models provide a green and personalized design path for the industry, complementing each other and focusing on different aspects, adapting to different spaces and design needs[2].

3.1. Modular Reuse Model.

The modular reuse model involves recycling, sorting, and processing waste materials into decorative modules that can be flexibly combined and disassembled according to uniform specifications. These modules are then matched and applied based on the function and style of indoor spaces. This model is centered on standardization, generalization, and flexibility. It involves sorting and screening waste materials, removing damaged and defective parts, and processing them through cutting, polishing, and anti-corrosion treatment to produce standardized components such as wood panel splicing modules, masonry decorative blocks, and metal frame modules. The modules adopt a detachable splicing structure, facilitating installation and replacement. They can be flexibly adjusted according to spatial requirements, adapting to various indoor scenarios while reducing construction difficulty and cost. This approach achieves large-scale, standardized reuse of waste materials, combining practicality with convenience.

3.2. Artistic re-use Model.

The artistic reuse model centers on aesthetic innovation, transcending the original form and functional limitations of discarded materials. Through artistic design, these materials are transformed into interior decorations with artistic value, endowing spaces with unique personality and artistic atmosphere. This model emphasizes exploring the texture, form, and imprint of the times of materials, utilizing techniques such as splicing, carving, painting, and weaving for creative transformation. Examples include making tapestries from discarded fabrics, creating ornaments from discarded glass, sculpting old wood, and assembling decorative paintings from discarded metal. It does not deliberately pursue standardization, but focuses on artistic expression and emotional transmission. This model is suitable for creative spaces, art exhibition halls, homestays, and other scenarios, effectively breaking the homogenization problem of traditional decoration.

3.3. Personalized Reuse Mode.

The personalized reuse model centers around a "people-oriented" approach, integrating users' aesthetics, lifestyles, and spatial characteristics to carry out targeted design and transformation of waste materials, creating exclusive interior decorations. The core lies in customization and emotionalization. Based on a thorough understanding of user needs and spatial styles, it explores the material characteristics and cultural connotations for personalized creation. For example, transforming users' old furniture and accessories, or turning memorable waste items into decorative ornaments and wall installations, or transforming them into unique storage and styling according to preferences. This model not only realizes the resource utilization of waste materials but also endows the space with emotional warmth and unique memories, breaking away from the homogenization issues of standardized decoration.

4. Aesthetic Expression Path of Waste Materials in Interior Decoration

The aesthetic expression of waste materials in interior decoration centers on leveraging the inherent qualities of the materials and design techniques to achieve the dual goals of "natural beauty + value transmission". By integrating four dimensions: texture, ecology, narrative, and simplicity, an aesthetic expression system is constructed that fits the interior decoration scene and aligns with the theoretical and practical knowledge mentioned earlier. This system not only respects the essence of the materials but also meets the aesthetic needs of the space, while echoing the "dual carbon" concept and green design requirements, becoming the core value embodiment of the resourceful utilization of waste materials[3].

4.1. Expression of Textural Aesthetics.

The expression of texture aesthetics is the most fundamental aesthetic form in interior decoration using waste materials. The core lies in respecting the original texture and usage traces of the materials, without excessive modification, highlighting their natural beauty. Waste materials come with unique textures, such as the grain of old wood, the roughness of discarded bricks and stones, and the rust traces of old metal, which carry the natural attributes and usage memories of the materials. In practice, designers integrate these textures into decorative design by preserving and enhancing them, such as splicing old wooden boards to form walls and laying discarded bricks and stones on the ground, allowing the materials to "show their true colors" and creating a natural, authentic, and genuine spatial atmosphere. This not only highlights the characteristics of waste materials but also meets people's aesthetic demands for natural and warm spaces. It is the fundamental path for the aesthetic expression of waste materials.

4.2. Expression of Ecological Aesthetics.

Ecological aesthetics centers around the concept of green sustainability, deeply integrating the reuse of waste materials with environmental protection principles. Through visual design, it conveys the concept of low-carbon recycling, achieving unity between aesthetics and ecological value. Waste materials themselves serve as environmental protection carriers, and their reuse process embodies the "dual carbon" and circular economy concepts. Ecological aesthetics transforms this implicit ecological value into explicit visual beauty. In practice, waste materials can be paired with green plants to create ecological decorations, or modular and detachable designs can be adopted to highlight the sense of resource recycling. This not only presents a fresh and natural visual effect but also allows residents to feel the significance of environmental protection, achieving "visible beauty and tangible environmental protection," highlighting the ecological and aesthetic value of waste materials.

4.3. Narrative Aesthetic Expression.

The core of narrative aesthetics lies in exploring the era imprints and cultural connotations behind discarded materials, utilizing them as narrative carriers to impart emotional warmth and cultural depth to indoor spaces. Discarded materials bear unique traces of use and historical memories, such as carved patterns on old doors and windows, and pages from old books, all of which contain exclusive stories. In design, through reasonable matching and transformation, discarded materials are made to convey emotions and culture. For instance, old wooden beams embody nostalgia, old vinyl records showcase retro culture, and traditional old crafts inherit craftsmanship. By breaking the material's tool attribute and endowing it with emotional and cultural attributes, a space with stories and memorable points is created, satisfying people's demand for personalized and emotional spaces.

4.4. Minimalist Aesthetic Expression.

The expression of minimalist aesthetics aligns with the modern minimalist style, with the core principle of simplifying complexity. By employing a concise approach, it uncovers the inherent beauty of discarded materials, achieving an effect of "simplicity without being simple" and meeting people's demand for a clean and comfortable space. The design eschews intricate decorations, instead emphasizing the essential qualities of discarded materials through precise selection and reasonable arrangement. For instance, walls made of polished discarded wooden boards, simple embellishments of discarded metal lines, and flat decorative panels made of discarded glass, all devoid of superfluous embellishments. Through proportion control and arrangement, the beauty of the materials themselves shines through, adhering to the minimalist design philosophy while breaking away from homogenization in decoration. This elevates the aesthetic tone of the space, realizing a simple unity of practicality and aesthetics.

5. Conclusion

This article focuses on the feasibility of innovative reuse of waste materials in interior decoration. Through three modes: modularization, artistry, and personalization, combined with aesthetic expression paths such as texture and ecology, it can achieve the unity of resource recycling and aesthetic value, effectively solving the problems of industry resource waste and decoration homogenization. Currently, the reuse of waste materials still faces issues such as inadequate processing technology, public perception bias, and lack of unified standards, which are constrained by factors such as technology and philosophy. In the future, it is necessary to improve the waste material recycling and processing system and quality standards, strengthen technological research and design innovation, deepen aesthetic expression, guide the public to change their perception, promote the large-scale and standardized application of waste materials, and help the interior decoration industry develop towards a green, personalized, and sustainable direction with high quality.

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