

Design Perspectives: The Value of Urban Greening as an Urban Cultural and Creative Products

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Abstract. Urban cultural and creative products are the presentation and marketing strategy of the comprehensive style of the city. Many research studies involve the excavation of urban regional characteristics or the renewal of urban natural spaces, but few studies emphasize the cultural connotation of urban greening. This article clarifies the potential value of greening as a cultural product from the perspectives of natural, historical, and social-cultural values, establishing the significance of urban greening productization. Then, by summarizing the existing urban greening design ideas, it is confirmed that the gaps in product design lie in cultural awareness and resource integration. These findings indicate that under the perspective of cultural and creative design, establishing context through cultivating cultural atmosphere and symbolizing cultural semantics and co-creation can provide a reference for urban greening and cultural creative design methods, thereby bringing new ideas to cities in improving cultural soft power from the perspective of natural resources.

Keywords: Cultural and creative industries, urban greening, design thinking.

1. Introduction

Cultural and Creative Industries (CCI) have become one of the predominant global industries in the past half-century, which carries human material and spiritual cultural content in a rich form and converts cultural resources into economic values to promote the development of cities and society [1,2]. Currently, the global urban map is much larger than before, and this trend is intensifying [3]. More and more people will gather in megacities or densely urbanized areas [4,5]. The constantly evolving way of human production and life, as well as the discussion on human development and living space issues, are gradually focused on the complex stage called "city" [3,6]. Various disciplines provide insights into urban production and consumption, and the concept of sustainability is incredibly associated with urban culture[6].

Given the escalating urbanization and environmental concerns, numerous studies have delved into urban natural ecology [5]. These studies encompass a wide range of topics, from broader aspects of nature that include sunshine, to diversified animals and plants, to the more specific focus on urban green spaces [7,8]. Although urban greening is an essential part of a city with the functions of environmental regulation, and flood and desertification resistance, it is also a practical object of nature-based solutions (NBS), such as focusing on urban ecological construction or human health and wellbeing [9,10]. Regarding urban co-creation and development, NBS emphasizes that developing or restoring local green vegetation and natural ecology provides new ideas and methods for developing regional uniqueness [8,11]. However, these studies rarely evaluate the value of urban greening from the cultural and creative design perspective, nor the communication power and economic benefits brought by it. Moreover, the attraction-centered strategy and influencers effect poses two problems to urban cultural creative products: value bias and homogenization [1,12]. On the one hand, the vagueness in product design orientation and cultural semantic expression hampers the product's ability to 'self-explanation', thereby hindering consumers' second interpretation of it [1]. On the other hand, the proliferation of 'old wine in a new bottle' products threatens the loss of local uniqueness, and even the motivation to explore its unique possibilities [9].

No matter how the form changes, the core of cultural and creative products always revolves around cultural connotations and creativity. This paper aims to demonstrate the potential of urban greening as urban cultural and creative products, to better convey the cultural connotation of urban greening

in the form of products, and to provide new insights and ideas for urban cultural and creative products from the perspective of nature. The paper process in section 2 will discuss the connection between urban greening and CCI from different cultural perspectives, such as urban natural, historical, and social cultures. Section 3 will highlight two significant challenges of urban greening as a cultural and creative product by analyzing some cases: the weak awareness of cultural connotation and the difficulty of resource integration. Finally, section 4 will propose the implementation approach of urban greening cultural and creative design, offering suggestions for product development.

2. The Value of Urban Greening Cultural and Creative Products

The added value of cultural and creative products originated from giving spiritual meaning to commodities and developed into deconstructing and reorganizing cultural factors into commodities [1,13]. Any human context has the potential to produce cultural and creative products. In other words, cultural and creative products contain human-centered attributes that focus on the current human society and lifestyle. Greening as a daily part of the city, whether private gardens, parks, or street trees, has the potential value of the object that gives connotation to products as well as the carrier of culture.

2.1. The Embodiment of Urban Natural Culture

In theory and experience, 'city' and 'ecology' invade each other's space [5]. Cities repeatedly modify their external boundaries and internal structures, while plants rely on mountains, rivers, wetlands, and other terrain to establish multi-level ecology [3]. To a large extent, urban greening is composed of plants that are highly adaptable to the city's environmental conditions. In other words, the types of greening plants reflect the climate and landform of the city. Although the greening will not move, it reflects the differentiated 'footprint' through the combined changes in temperature, altitude, and lighting time [10]. The types of urban buildings, residents' clothing, and eating habits are also inseparable from the impact of climate and terrain. When reviewing cities' images, greening appears together with other cultural features: thatched houses with coconut trees and European castles with pine trees. With the increasing residents' awareness and demand for nature, walking in different cities means walking in a changing vegetation environment in the context of urban NBS [8].

2.2. The Connections with Urban Historical Culture

Plants are one of the most convincing organisms for measuring time scales [12]. People built cities within nature, bulldozing land to create buildings and roads, then reinforced the needs of nature in cities by creating parks and restoring wetlands. An old tree not only carries a complex ecological community but also records the stories of generations and changes in conservation techniques [7,10]. The changing colors of the city's flowers, fruits, and foliage symbolize the changing seasons throughout the year [3]. Different nationalities using native plants have created diverse edible plants, medicinal uses, and folk-belief cultures [9]. Similar records of exotic plant introductions epitomize the aesthetic preferences of urban plants [10]. Moreover, some urban greenery serves as a historical heritage, such as ancient gardens and courtyards, or as an ideological part, becoming the name of ancient buildings, the narrative object of allusions and poems [4,14]. Therefore, many cities have representative trees and flowers.

2.3. The Improvement of Social Culture and Other Values

Urban greening is used to meet human needs in a greater proportion than is the case in wild nature and rural environments [5]. Just as historic sites can enhance the cultural cohesion of residents, urban greening can improve their quality of life [3]. Urban greening, even street trees, as "mundane nature", is the most significant source of nature contact for urban residents [7]. On the one hand, many studies have shown that urban greenery brings feelings of freedom and relaxation, positively affecting emotional health and psychological recovery [4]. People of different ethnic, cultural, and socio-

economic backgrounds recognize the inclusiveness of urban life, natural belonging, and identity that urban greening brings [5,6,15]. On the other hand, green infrastructure and activities also provide positive guidance for residents' socialization and living habits [3,15].

Urban greening as a natural element carries an inherent aesthetic value [5,12]. People are constantly drawn to nature, seeking ways to perceive and experience it [7]. The pursuit of green spaces, from plant ornaments to floral elements, underscores the enduring inspiration and creativity that urban greenery provides [8]. This is particularly obvious among children, who are often the most captivated by the beauty of nature. However, allegations of a lack of natural knowledge have emerged recently, such as a charge that kids know more fictional characters than vegetation [15]. With the considerations of safety and cost, urban greening is an excellent resource for eco-education. Meanwhile, the promotion of greening can lead to a green, economical, and low-carbon lifestyle [3]. The transformation of the value of nature can drive the trend of green consumption and cultural tourism, thus enhancing the city's image and bringing economic benefits.

3. Current Challenges

The first challenge is that urban green design is rich, but it is generally tricky to show cultural connotations. The broader scope of urban greening typically falls within the research field of urban planning and landscape design. When facing urban environmental issues, studies primarily focus on ecological benefits and meeting people's natural needs, while cultural benefits are derivative values [5]. For instance, green open spaces, green roofs, and vertical green walls are all design objects of great concern. Researchers have started to conceive NBS as an artwork to combat biodiversity loss because the scheme based on art aesthetics can encourage residents to appreciate and protect it [8]. The research suggests that incorporating human creativity and the creativity of non-human species, such as the urban rock pigeon nest simulating the cliff environment, can jointly create a free urban natural culture [8]. However, this random culture is more abstract and subtle, making it challenging to recognize and embrace by the public.

It is less complicated to develop creative products from a single plant, such as ginkgo biloba product development. Ginkgo is the only species of ancient ginkgo plants surviving on the earth, which is referred to as the 'world's first living fossil.', faces no natural enemies and relies solely on humans for seed dispersal. Research has shown that its abundant leaf resources hold promise for plant dyeing, and the practical function of ginkgo dyeing products aligns well with consumer demand [13].

Therefore, the designer tends to choose symbolic plant objects instead of integrating the urban green resources as a whole. There is a long history of giving symbolic meaning to urban plants, creating value recognition, and serving as a carrier for enhancing urban soft power [12,14]. Nationally recognized plants, such as the tulip in Holland and the maple in Canada, either have a deep history or are accompanied by mature related industries and products. City-wide plants such as the Shanghai Magnolia and the Hong Kong Bauhinia are also well known. In China, since the 1980s, dozens of cities have selected their city flowers. Most of them are traditional Chinese flowers with local characteristics and aesthetic value and are widely recognized and respected by the citizens of the city where they are located [14]. 'Luoyang's peonies, earth's finest', which is a fusion of ancient cultural symbols and today's urban construction. Luoyang not only builds peony heritage parks, peony riverfront wetland parks, and other urban public spaces but also highlights peonies in other green plants in the city. The city has also equipped itself with complete industries, such as the Luoyang Peony Flower Fair, which began in the Sui Dynasty and is still held annually, and the peony cultivation technique has been listed as China's national intangible cultural heritage [3].

However, the approach of greening cultural and creative products, which often emphasizes symbolic objects or fixates on a single entity, can be problematic. This narrow focus fails to capture the comprehensive value of urban greening enhancement and can even lead to a 'cart before the horse' scenario [8]. For example, it may disrupt the ecological balance, which could otherwise foster biodiversity. Similarly, if market demand surpasses the supply capacity of a single plant, it could

result in resource over-exploitation and over-consumption. It is advisable to consider selecting a few species of native plants to establish a simple hierarchy or series at the very least [9]. Replicating the success of a single-object model with multiple objects will be the second challenge of greening productization.

4. The Proposal of the Cultural and Creative Design Perspective

4.1. Establishing Context

Urban greening product design follows a pattern of diverging problems and converging solutions as proposed by the double drill design model [16,17], which faces a more complex advanced issue: product awareness. As natural exhibits, urban greening often struggles to gain citizens' attention due to its perceived 'taken for granted' status and lack of novelty [15]. This difficulty is also an opportunity for greening to be a ubiquitous design resource. Designers, through their work and meaning-making, have the power to evoke users' unrealized natural needs and motivation for urban nature that may have been overlooked. Indeed, inadequate or superficial stimulation of green product design will also lead to difficulties in establishing spontaneous and long-term cultural communication effects. From a psychological point of view, cultivating curiosity and a sense of belonging is one of the ways to enhance people's continuous attention to a specific topic. When trying to make cultural and creative products from various urban greening series, designers can avoid problems such as superficial cultural extraction and product mechanical copying problems through semiotic analysis. By emphasizing the unity of external representation and internal image of cultural symbols, designers can create a modeling form that is deeply connected to the connotation of its reference [1]. For instance, the ecological characteristics of the cold resistance of plum blossoms can be used to symbolize human strength.

4.2. Co-Creation

Designing urban greening as a cultural and creative product involves complex resource planning and maintenance. Researchers have endeavored to integrate and plan the city's greening resources from a cultural and creative perspective. This process entails sorting out 80 plant species in 13 areas, including city parks, creative parks, waterfront banks, and main roads [9]. Then, based on different plant characteristics, we integrate their landscape and cultural expressions and suggestions for cultural and creative uses. Further extraction of cultural ideas is inseparable from the participation of experts across history, culture, ecology, and design. From a city-wide perspective, this issue involves multiple stakeholders such as government agencies, green management organizations, botanists, designers, media, educators, developers, suppliers, and users. Designers within different disciplines, such as architecture, landscape, product, and service design, have different motivations, skills, resources, and talents [16]. Facilitating long-term communication between different stakeholders will be very helpful in gathering requirements and perspectives more comprehensively and reducing designer bias. On the one hand, since greening is a design resource integrated into urban life, improving the design participation of 'folk experts' and 'audience' is significant in completing the product's cultural and artistic value [8]. For example, collecting residents' unique memories adds to the product's narrative, and incorporating consumers' evaluations and secondary interpretations can promote the co-evolution of aesthetic standards. On the other hand, establishing cooperative relationships among different stakeholders is key to overcoming fragmentation and unfair distribution. Last but not least, building a supporting service network can effectively ensure sustainable development in the face of such an extensive range of design content [3]. For example, service stations for product sales or consultation are provided in different greening areas and communities so that repeated facilities can form IPs. In terms of strengthening cultural concepts, cooperation with local art groups, museums, and other cultural institutions to provide temporary exhibitions and experience activities is also a solution for creating sustainable product value. Products can be strategically adjusted based on current technology trends and discussion hotspots. Although virtual products are not recommended for experiencing

nature, they are still a good platform for interaction and co-creation due to their advantage of not being restricted by regions. This emphasis on sustainable development is not just a buzzword, but a commitment to the future of our cities, instilling a sense of responsibility in all of us.

5. Conclusion

Urban greening, a vital component of the city's functioning system, presents significant opportunities for product development under the dual perspectives of the city's cultural landscape and ecological environment. This research demonstrates that urban greening can broadly reflect the city's climate and geographical features, historical and cultural connotations, and residents' lives, health, and well-being. By exploring existing processes in urban green design and plant-related cultural and creative design, the paper identifies that raising awareness of cultural expression in greening and integrating fragmented resources are crucial to advancing this type of research. Therefore, this study provides two proposed design directions for development. First of all, create a context and raise awareness of greening concerns. Secondly, collaborative creation and combination of interdisciplinary resources. In conclusion, urban greening as a cultural and creative product design and development can enhance the richness of urban cultural industries from a new perspective and alleviate the problems caused by the market-centric marketing concept in CCI. In the long run, promoting urban greening into the public's vision in the form of products can promote the development of urban green undertakings and can potentially stimulate new ideas and insights in the field of nature-based innovation and urban sustainable development. Considering the interconnectedness between urban ecological integrity and socio-ecological systems, theoretical assessment and practice across different disciplines is crucial. Trust and privacy issues among relevant stakeholders and possible conflicts of interest require further research. In addition, more discussion in future research around a broader range of natural resources within cities, including biotic and abiotic elements, is a much-needed endeavor to make urban cultural creation more comprehensively consistent with the participatory nature of NBS.

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