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A Study on the Integration of Natural Elements and Intangible Cultural Heritage Narratives in Healing Space Design

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Abstract: Now urbanization is fast, and people care more about mental health, so healing spaces face new requirements and should provide more functions than before, which means the design should consider emotional and social aspects together with the physical space. Healing spaces should change from single-function healthcare environments to multiple-function settings that can support emotional regulation and cultural activities. They can also support social interaction. We examine the relationship between natural elements and intangible cultural heritage narratives. Next, we look at how these connect with healing space design. Through literature review and conceptual exploration, we develop an analytical framework. It includes perception of the natural environment, understanding of intangible cultural heritage, spatial participation, and emotional regulation. Natural elements are not just landscape features. They are not just decorative devices either. Instead, they can function as narrative media that connect local memory and traditional materials, and they can also present craft practices. Intangible cultural heritage can be translated into spatial experiences through spatial sequences, material organization, multisensory engagement, and participatory interaction. From these observations, we propose several design strategies, including the translation of cultural processes, the incorporation of natural media, the organization of gradual spatial experiences, and the development of differentiated healing experiences. It is worth noting that these strategies can be used as a reference for the design of intangible cultural heritage experience spaces and culturally situated healing environments.

Keywords: Intangible cultural heritage; Natural elements; Cultural narrative; Healing space; Spatial design; Sensory experience

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1. Introduction

1.1. Research background

In recent years, spatial design has changed, and this trend can be seen in many cities. Traditional design usually focuses on functional efficiency and formal expression, and visual aspects are also considered. But

now the situation is different, and spatial design should consider users' emotional states, bodily sensations, cultural belonging, and social relationships. In fact, people now care about how they feel in space. It is worth noting that in the context of high-density urban life with information overload, and when daily rhythms become fast, people need public spaces that are quiet and calming, with emotional support, because the stress from work and life should be released in such places. So healing spaces can be found in hospitals and rehabilitation centers. Also, we can see them in psychological counseling facilities, and they can move into community spaces, cultural venues, creative spaces, museums, and public landscapes.

We examine how people preserve intangible cultural heritage. The traditional modes are changing. Written records and object collections can hardly show technical processes. Explanatory panels miss the embodied knowledge. They fail to present local memories and emotional values contained in the heritage, and it is worth noting that this is a big limitation. Intangible cultural heritage is not a historical relic detached from contemporary life. In fact, it is a cultural practice with materials and techniques. Rituals and sounds are included. Bodily movements and social relationships constitute this practice. So we propose that heritage exhibition spaces should shift from "observing culture" to "participating in culture," and they should move beyond static display toward experiences with multiple senses and interaction with proper context for visitors; this can help improve the exhibition effect [1].

Natural elements and intangible cultural heritage have close connections. Traditional crafts need materials from the local environment, including bamboo, wood, earth, stone, fibers, plant dyes, and water. Natural resources can provide the material foundation for traditional techniques. Also, it is worth noting that these resources can influence local production modes and daily practices, and they can shape aesthetic values too. So natural elements are material components in spatial design. At the same time, they can serve as environmental conditions through which intangible cultural heritage is formed and sustained, so they play a key role in the whole system. When we integrate natural elements with intangible cultural heritage narratives, it can help spaces move beyond superficial symbolic decoration, and we can develop experiential environments with regional identity and continuity, where bodily participation can be achieved.

1.2. Research questions and objectives

In existing intangible cultural heritage experience spaces, we can see some projects use traditional patterns and replicated objects. Also, they put many visual panels in the space. Such approaches can compress complex cultural systems into isolated decorative symbols. The experience depth can be limited. But some healing spaces use plants and natural light to create a comfortable atmosphere, and they use wooden materials for decoration, but they lack explicit cultural content and a sense of place. It is worth noting that these two types of spaces can show different deficiencies in actual design, and the former can lack depth of experiential engagement, and the latter lacks cultural narrative [2].

Starting from this, we can look at some questions. First, how can natural elements take part in the narration of intangible cultural heritage, and not be landscape features or decorative devices in a healing space? Second, we examine how intangible cultural heritage can be made into experiences people can feel, which can be achieved through spatial organization and material choices, and through the way people interact with space and materials. Third, how can the combination of natural elements and intangible cultural heritage narratives help regulate emotions? It is worth noting that we also want to know if it can create spaces that support healing.

We do not claim that a particular space can produce clinically validated therapeutic effects. In fact, we look at this problem from the view of art and design, and also environmental experience, and we discuss how culturally meaningful spaces can provide opportunities for relaxation, concentration, participation, and communication. Emotional connection is also included. So in this study, "healing" mainly means positive experiences related to psychological perception and environmental comfort, and also emotional well-being.

2. Theoretical foundations and conceptual definitions

2.1. The environmental experiential character of healing spaces

Healing space is not just about adding plants or using soft colors. In fact, the real goal is to improve users' perceptual and behavioral states through how we organize the spatial environment, which can be helpful for their daily experience [3]. Such space should provide stable sensory stimulation. Also, environmental control should be appropriate, and the spatial order can be clear but not oppressive, and users should have chances to choose where they wish to stay.

We can understand healing qualities from a spatial experience perspective. There are three levels in total. The first level is the bodily level, which includes lighting, temperature, sound, air quality, material tactility, and scale of movement. The second level is the psychological level, involving security, controllability, relaxation, concentration, and emotional stability, and this is very important for patients' mental state because if they feel unsafe or cannot control the environment, the healing effect can be reduced. It is worth noting that there is also a third level. This is the sociocultural level. This includes a sense of belonging, identity, local memory, and also relationships among people. Traditional research on healing environments has emphasized the first two levels, which are easy to measure and observe in physical space, but the sociocultural aspect is ignored by previous studies even though it can play a key role in long-term recovery [4]. However, when we incorporate intangible cultural heritage, it can strengthen the third level and can provide support for the whole healing process.

In fact, we can find that a healing space does not need to be completely quiet. It can be open and with some stimulation, and this means some noise is allowed in principle. For some users, they can touch natural materials and listen to traditional sounds while participating in handicraft production or completing craft activities with others, which can provide emotional stability and psychological satisfaction. So the healing quality of the space should consider different forms of experience. Solitude and rest can be accommodated, and at the same time moderate interaction and cultural participation should be included.

2.2. The spatial translation of intangible cultural heritage narratives

We should note that the narrative of intangible cultural heritage is more than a simple chronological arrangement of historical information. In fact, values and local experiences embedded in the heritage can be translated into spatial experiences that visitors can perceive in exhibition space, and technical logic can be converted to this form. For traditional crafts, narrative content can include material sources and production processes. Also, tools, systems of transmission, local lifestyles, aesthetic principles, and ritual contexts can be covered.

In the spatial design, we can develop narratives for intangible cultural heritage. It is worth noting that four approaches can be used. First, material narration can express cultural content using traditional materials and crafted architectural components, and it can also include visible traces of making that users can observe

when they visit the space and want to understand how things were produced in the traditional way. The second is behavioral narration. Users can understand techniques through participatory activities. Weaving, carving, dyeing, and pottery-making can be arranged. Scenographic narration is the third approach, and it can reconstruct cultural contexts associated with intangible heritage through spatial sequences and environmental atmospheres that create specific feelings in the space. The fourth type is relational narration. It can reveal social mechanisms of cultural transmission. This can work through interactions among masters, apprentices, community members, and participants [5].

We focus on how culture is generated, not just final products. In fact, if we compare this with copying traditional patterns, showing the whole process from material collection to final use can help users understand the relationship between intangible cultural heritage and the local environment, and this understanding should be deeper than just watching the results. Also, when users participate in one specific production stage, it can generate bodily memory and emotional identification, and this effect is expected to be better than just showing historical explanations.

2.3. The dual functions of natural elements

Natural elements are examined in this paper. They have material attributes and cultural attributes. The material side includes light, air, water, plants, and also earth, stone, wood, and natural fibers. These elements can influence light, sound, scent, temperature, and tactile experience in space, and we can see that the physical environment is changed by these factors in a way that can affect human perception and comfort level. It is worth noting that the cultural attributes are expressed through the relationships with local production, everyday practices, folk beliefs, and historical memory.

We can take a regional plant as an example. It works as a landscape element and can be used as raw material for traditional dyeing techniques, and this dual function means it has value in both visual aspects and practical craft traditions. A stream can provide an auditory experience. Also, it is associated with production processes and the settlement development of local handicrafts, which reflects the historical evolution of human settlement patterns in this region and can help us understand how people adapted to natural conditions through traditional wisdom. Then, untreated stone conveys a tactile quality that can be perceived by users through direct touch, and this physical interaction is important for design. At the same time, it evokes regional geology. In fact, design value is expected to create a sense of nature. Also, it can transform the natural environment into an entry point for cultural understanding so that people can better understand local culture and history through interaction with these natural elements in the space.

3. Research methods and analytical framework

3.1. Research methods

We use design research as the main framework in this study. The research process includes three parts.

First, we use literature analysis to review concepts related to healing spaces, environmental experience, the living transmission of intangible cultural heritage, and spatial narrative. This step can establish the theoretical foundation of the study.

Then, we employ conceptual analysis. It is worth noting that we examine the intrinsic relationship between natural elements and intangible cultural heritage, and we should identify possible pathways for their translation into spatial design because this can help bridge the gap between abstract culture and concrete

space.

Finally, we use design strategy research to apply theoretical analysis to spatial organization, material selection, sensory experience, and user participation. In fact, this step can connect theory with practice, and it can provide guidance for actual design work.

We examine the design logic and methodological frameworks here. It is worth noting that we should not make strong claims about therapeutic outcomes because empirical verification is still lacking. In future research, we can combine specific intangible cultural heritage projects with field observation, in-depth interviews, behavioral recording, and user experience evaluation, and the design strategies we propose here can be tested.

3.2. Analytical framework

This study develops a four-layer analytical framework consisting of "environmental foundation—cultural narrative—spatial translation—user experience."

The first layer is environmental foundation. We examine natural landforms and climatic conditions of the site. Also, plant resources and hydrological characteristics should be included here, and local materials can be considered. The second layer is cultural narrative. This layer considers historical origins and technical processes. We should look at material systems and symbolic meanings. Transmission relationships associated with heritage practice can be examined. This can help us understand the full cultural context of the site. The third layer is spatial translation. It focuses on how layouts, circulation routes, spatial nodes, interfaces, materials, and media transform natural and cultural content into concrete spatial language, and this transformation process is expected to bridge the gap between abstract concepts and physical space. The fourth layer is user experience. This layer examines users' processes of entering, perceiving, participating, staying, communicating, and leaving. It is worth noting that comfort, concentration, belonging, and emotional relaxation are expected to be evaluated, and these psychological factors can, in principle, determine whether the design is successful when users interact with space in real-world conditions.

We should note that these four layers do not form a linear sequence. In fact, the natural environment can influence the formation of intangible cultural heritage, and cultural practices can give new meanings to natural elements, which creates a complex relationship between nature and culture that cannot be described as a one-way effect. Then spatial design translates both into experience, and user feedback can modify the spatial narrative and design strategies.

4. Strategies for integrating natural elements and intangible cultural heritage narratives

4.1. Moving from cultural symbols to cultural processes

We should avoid symbolic representation in intangible cultural heritage space design. Traditional patterns and object forms have identification functions, and color systems can also work in this way. However, when design stays at the pattern replication level without deeper thinking, it can reduce cultural content to a superficial visual layer, and this is not good for showing the real meaning. It is worth noting that a better approach should begin with the processes where intangible cultural heritage is formed. We organize material collection, processing and production, use, and transmission into a spatial narrative.

In traditional craft-based heritage projects, we can divide the space into four main functional parts,

which include the material interpretation area for learning about raw materials, the technical experience area for tool exploration, the creative practice area for hands-on making, and the communal presentation area for final display and exchange activities. Users can first learn about the relationship between materials and the regional environment, and then they explore tools and production processes. It is worth noting that they complete a basic creative activity. Their work can be displayed or exchanged in the shared public area. Such a spatial sequence can transform cultural narrative from explanation into experience, and natural elements can function as an active part of the narrative chain.

4.2. Using natural elements as narrative media

Natural elements can show a clear relationship with regional origins. It is worth noting that we should not use plants, wood, soil, stone, and water just because they look natural, and specific roles in local life and traditional techniques should be explained so people can understand the real meaning.

In material selection, we should choose local materials first because these materials have a historical connection with heritage practice and they can convey the technical logic, or we can use substitute materials when they have similar tactile qualities and technical logic that can meet the requirement. For planting design, regional identity and seasonality should be considered. It is worth noting that sensory characteristics also matter. Plants can participate in expressing cultural memory. In fact, they should do more than just work as landscape decoration. In water and sound design, natural sounds with low intensity can be used, and these sounds should be continuous so they can create a calming atmosphere while remaining connected to local production and everyday narratives. Natural sounds should not be treated as background effects without context.

Natural elements can help strengthen narrative through temporal change. It is worth noting that variations in daylight, plant growth, material aging, and seasonal landscapes can give the space continuity and openness. So intangible cultural heritage is not a fixed historical object. We can view it as a cultural process, and it can interact with contemporary life.

4.3. Organizing a gradual spatial experience

Healing spaces should avoid abrupt spatial transitions. Also, we should avoid overly complex layouts, and it is worth noting that complex design can make users feel confused in a healing space. The spatial narrative should develop step by step. It can allow users to move from the external environment into interior spaces where they can feel calm and focused, and these spaces should have cultural meaning.

In the entrance area, we can use an open interface and combine local landscape features with heritage materials, and we also add cultural information so visitors can know where they are; it is worth noting that this helps establish initial awareness of place. Then, transitional areas can use partitions that are semi-transparent, and partial screening is used here with changes in material, and at the same time we control light and shadow so disturbance from outside can be reduced. Core experience areas can include craft practice and exploration. Also, we provide interactive displays in these areas. In quiet resting areas, we provide opportunities for solitude, reading, observation, and emotional recovery. Different zones should maintain visual continuity and circulation continuity, and users can decide how long they wish to stay and in what manner.

We use gradual organization so that functions are not concentrated in a single space, and this can reduce the cognitive burden on users because, when functions are distributed in different areas, people do not need

to process too much information at the same time. In fact, for users who need quiet rest, the space should let them stay away from interactive activities. Also, for users who want to learn about intangible cultural heritage and do creative work, the space should provide a clear and open experience route with good accessibility.

4.4. Constructing multisensory experiences

Intangible cultural heritage shows strong embodiment characteristics. Many traditional techniques are transmitted through hand movements and material tactility; tool sounds and olfactory memory can also be included in this transmission process. It is worth noting that these sensory experiences form the core of heritage transmission, so we can see that the transmission depends on multiple sensory channels. These dimensions are hard to communicate when we use only the visual display. So intangible cultural heritage healing spaces should go beyond visual dominance and can use a multisensory coordination approach.

At the visual level, we can use natural light and material textures to show the relationship between nature and culture, and color variations with framed views also help. It is worth noting that we provide tactile samples of different materials so users can experience distinctions. They can touch wood, fiber, clay, and stone. Then, natural sounds from craft activities and traditional music with low intensity may be incorporated in auditory design, provided that we control the number and volume of sound sources because too much noise can disturb the experience, and the system should avoid this problem. At the same time, plants, wood, soil, and natural dyes can produce regionally distinctive scents at the olfactory level, although potential allergies and individual differences must be taken into account.

We should not maximize stimulation in multisensory design. It is worth noting that the goal can be to establish sensory relationships that are moderate and stable with clear meaning. In healing space, sensory experience can support concentration and relaxation, and it should avoid excessive immersion that focuses on consumption.

4.5. Introducing participatory interaction

The vitality of intangible cultural heritage depends on participation and transmission. Spatial design should provide multiple levels of engagement, from observation to practice, rather than requiring all users to complete the same activity. Low-threshold experiences may include touching materials, identifying textures, simple assembly, and color arrangement. More time-intensive activities may involve workshops that require users to complete a basic craft process.

Interactive methods can reflect the real logic of traditional techniques, and they should avoid turning heritage practices into superficial games for entertainment. In fact, digital technologies can present technical processes and explain material origins, and the creative work of users can be documented so that we can keep a full record of the traditional methods and the new ideas from the visitors, which is important for heritage protection in the museum. But they should not replace real materials and bodily operations. In the intangible cultural heritage experience spaces, digital media can supplement information and extend the narrative scope, and at the same time it can support personalized experience because we think the digital part should help the real craft instead of replacing it in the actual operation. It is worth noting that it cannot substitute for the craft itself.

4.6. Developing selectable levels of healing experience

It is worth noting that different users have various psychological conditions and cultural interests, and their tolerance for sensory stimulation can be different in many cases. Therefore, space should provide

experiences with varying intensity. The first level is environmental healing, which can depend on natural light, vegetation, ventilation, comfortable materials, and a quiet acoustic environment, so that basic relaxation is provided to users. The second is sensory healing. It can enhance bodily awareness through touching materials and observing techniques, and users can listen to sounds and perceive scents at the same time. The third is participatory healing, through which users can develop concentration, and they can have a sense of accomplishment by making objects and creating collaboratively, and they can also learn traditional techniques. In fact, the fourth is cultural healing, which can emerge through understanding local history and participating in transmission activities, and users can develop a sense of cultural belonging.

In fact, these levels should not be seen as functional zones with rigid separation. Also, they can provide users with different ways to enter and experience the space, which means people can find their own path through the environment, and this can help them feel more comfortable when they move between different areas in the building. We should not define healing as a single prescribed behavior in design, and users can choose the engagement mode based on their individual needs.

5. Design application and evaluation dimensions

5.1. Design concept

Based on the preceding analysis, this study proposes the design concept of "cultural memory in the process of natural growth." The concept emphasizes that intangible cultural heritage is not a remnant of the past fixed behind display cases. Instead, it is a living form of experience continually generated through local environments, materials, and human practices. Through natural materials, semi-open interfaces, continuous circulation routes, and participatory nodes, the space can present the transformation of intangible cultural heritage from natural resources to human techniques and from individual making to collective memory.

In terms of spatial form, we should reduce excessive decoration. Also, assertive formal gestures can be avoided. It is worth noting that construction methods revealing intrinsic material qualities can be used in the design process. For spatial interfaces, we can use wooden screens, fiber textiles, rammed-earth textures, or translucent materials, and this can create an appropriate relationship between enclosure and openness. Spatial nodes can be organized around materials, tools, techniques, transmission, and rest, and cultural narrative and functional arrangements can support each other.

5.2. Design evaluation dimensions

To determine whether natural elements and intangible cultural heritage narratives have been effectively integrated, the design may be evaluated according to four dimensions.

The first is cultural legibility. Can users understand the relationship between the natural elements and heritage practice? Also, we should see if they can identify the cultural theme expressed by the space, and it is worth noting that the design should avoid reducing cultural content to partial or only symbolic representation.

Second, we examine experiential participation. Can users join the cultural narrative through observation and touch, and can they also operate devices and communicate with others? It is worth noting that different participation forms should be provided. These can vary in difficulty and duration, and the required commitment level is also different.

The third is environmental comfort. Are lighting, sound, temperature, air quality, and spatial scale appropriate? Do the materials and natural elements support staying, concentration, and emotional relaxation?

The fourth is spatial coherence. Do the landscape elements, material language, cultural information, circulation routes, and interactive components form a consistent logic? Are there instances in which natural elements and cultural content appear disconnected from one another?

In practical research, we can use interviews and questionnaires for evaluation. Also, behavioral observation and experience mapping can be used. It is worth noting that when users report feelings of relaxation or comfort, these are subjective experiences only, and in fact they should not be equated with therapeutic effects in a medical sense because such effects need strict clinical validation.

6. Conclusion

Based on the analytical framework of "environmental foundation—cultural narrative—spatial translation—user experience," this study has examined pathways for integrating natural elements and intangible cultural heritage narratives in healing spaces. Natural elements possess both sensory-regulating and cultural-expressive value, and they can participate in spatial narratives through local materials, technical processes, and memories of place. Design should emphasize the processual character of intangible cultural heritage and combine gradual circulation, multisensory participation, and user autonomy to coordinate cultural understanding, hands-on craft experience, and contemplative rest. At the same time, it should avoid excessive symbolic accumulation and sensory overload. These strategies offer methodological references for the living transmission of intangible cultural heritage and the design of regionally grounded healing spaces. Nevertheless, the emotional-regulation value proposed in this study remains a theoretical proposition and requires further examination through behavioral observation, interviews, and user experience evaluation in specific cases. Future research should also clarify the conditions under which these strategies are applicable and account for differences among user groups.

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