Pengjun Wu, Wencui Zhang, Dandan Xu and Yao Liu*

Analysis and research on symbolic emptiness in traditional architecture in the Shangri-La Tibetan area

Abstract: Shangri-La Tibetan architecture is rich in artistic content and steeped in cultural heritage. However, during the rural transformation process, due to incomplete understanding of the traditional architectural culture and symbols with ethnic regional characteristics, many architectural cultural symbols have often been misused or confused. The Blank-sign, as a unique adjustable symbol system, is often overlooked in traditional architectural studies due to its "gaps." Yet, studying it is crucial for addressing the misuse of architectural symbols. This study employs deconstructive analysis and dimensional analysis of Blank-signs, meticulously deconstructing the elements of Blank-sign in Shangri-La Tibetan architecture. The research reveals that the Blank-sign in Shangri-La Tibetan architecture not only constitutes a significant part of architectural aesthetics but also reflects profound cultural and religious concepts. By analyzing the external manifestations and internal cultural causes of architectural Blank-signs, the study elucidates their specific roles in expressing Tibetan views on space and time, nature worship, safety and territory, and cleanliness. Furthermore, architectural Blank-signs imbue buildings with dynamism, reinforce architectural levels, highlight architectural prominence, and create artistic ambiance, thus holding substantial artistic value.

Keywords: Shangri-La; Tibetan area; traditional architecture; blank-signs

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1 Introduction

Shangri-La City is located in the Diqing Tibetan Autonomous Prefecture of Yunnan Province (Llamas and Belk 2011). The terrain is low in the south and high in the north, featuring diverse climate types, including forest, grassland, and lake basin climates, which create the unique "different weather in different places" characteristic of the Yunnan-Tibetan climate (Qin et al. 2019). As one of the significant birthplaces of Tibetan culture (Davidson 2005), the natural environment of Shangri-La has fostered a variety of traditional Tibetan architectural forms. These buildings not only reflect the unique lifestyle and cultural customs of the Tibetan people but also carry profound historical and religious significance (Herrle and Wozniak 2023). The design and layout of the buildings in Shangri-La are rich in symbolic meaning, through which the Tibetan people's beliefs and values are expressed (Xie et al. 2024).

Traditional Tibetan architecture is renowned for its unique style and craftsmanship, with common forms including watchtowers, temples, and residential houses. These buildings follow specific rules and symbols in terms of site selection, structure, and decoration. The solidity and height of watchtowers symbolize strength and protection, the solemnity of temples reflects the central position of religious belief, and the design of residential houses emphasizes the Tibetan people's respect for nature and family (Herrle and Wozniak 2023).

Within these architectural symbols, however, there are also less obvious elements, such as blank spaces or unfilled areas – referred to as blank-signs. These elements are often overlooked but play a significant role in the building's overall symbolic system. To better understand these elements, we can draw upon Peirce's semiotic theory. According to Peirce, a sign consists of three fundamental components: the representamen (the form of the sign), the object (what the sign refers to), and the interpretant (the meaning that arises through interpretation; Sebeok 2001). Peirce emphasized that the meaning of a sign is dynamic and depends on the context and the interpretant involved (Short 1992).

In this framework, a blank-sign can be defined as a type of sign whose representamen takes the form of a blank, gap, or pause. The meaning of a blank-sign depends on the cultural context and the interpretant, which completes its construction. Unlike traditional real-signs, the meaning of blank-signs is not immediately apparent but is gradually interpreted through interaction with other signs within a specific cultural and social context. In Tibetan architecture, blank-signs often appear as empty walls, gaps in windows, or spaces within the layout, serving not only as visual emptiness but also playing a role in separating, indicating, and accentuating other elements. In this way, blank-signs enrich the symbolic system of the architecture.

Therefore, studying blank-signs in traditional Tibetan architecture in Shangri-La allows us to understand how these blank elements contribute to the transmission of Tibetan cultural identity and belief systems. This analysis provides a deeper understanding of the semiotics of Tibetan architecture while offering a fresh perspective and argument for the preservation and transmission of traditional architectural heritage.

2 Literature review

2.1 Current research on traditional architecture in Shangri-La

The traditional architectural art of the Shangri-La Tibetan area not only showcases the unique aesthetic expressions of the Tibetan people but also reflects the close integration of the natural environment and cultural customs of the plateau region (Liu et al. 2024). Tibetan traditional architecture exhibits a rustic, natural, and bold aesthetic that complements the majestic, beautiful, and magical natural environment (Yang et al. 2024). Its solid and stable structure, with tapered walls and a column-and-beam framework as basic elements, ensures both visual and structural stability.

2.1.1 Diversity of structure and form

Tibetan traditional architecture is diverse in form. Although there are commonalities in structural forms, door and window assemblies, and the use of building materials, architectural forms are adjusted according to regional environmental differences (Su et al. 2025). This regional adaptation results in varied and rich architectural styles. Zhang et al. (2017) found that traditional Tibetan-style houses in the Northwest Sichuan Plateau rely on firewood for heating but face challenges in thermal comfort and environmental impact.

2.1.2 Elegance of decorative art and craftsmanship

The decorative arts of Tibetan traditional architecture are splendid, applying principles of balance, contrast, symmetry, rhythm, harmony, and unity in composition and aesthetics. Major art forms include copper carving, clay sculpture, stone carving, wood carving, painting, and textile arts (Li et al. 2011). These decorative methods not only demonstrate high craftsmanship but also deeply reflect the aesthetic pursuits of the Tibetan people. For instance, Herrle and Wozniak (2023) reveal the design ideas and construction methods in different Tibetan areas through comparative analysis.

2.1.3 Integration of color and culture

Tibetan traditional architecture uses colors boldly and delicately, mainly employing white, yellow, red, and black, with blue and green as supplementary colors, creating a simple and bright effect (Shang 2020). Hillman (2003) summarizes the cultural implications of colors in Tibetan architecture, analyzing the relationship between colors, religion, and social hierarchy, and proposes the concept of a "Tibetan architectural color system."

2.1.4 Regional studies and field investigations

In studies of the Shangri-La Tibetan area, Qiongli et al. (2022) classified and deeply analyzed the types of residential houses in different regions of Yunnan, categorizing Shangri-La Tibetan residences into the "plank house system." Liu et al. (2023) conducted field research to study the functions, layout, and decorative features of Tibetan residences in Shangri-La City and Deqin County in detail.

2.1.5 Comprehensive studies and cultural interpretation

In comprehensive studies, You (2020) reviewed important buildings from various historical periods of the Tibetans, discussing architectural types, craftsmanship, adaptability to the natural environment, and cultural exchanges. Semple (2005) analyzed the causes of Tibetan traditional architecture and the influence of local culture from a multidisciplinary perspective.

2.2 Current research on the blank-sign

Semiotics is the study of signs and their meanings, aiming to reveal how signs convey information in different contexts (Eco 1979). It involves the structure, operation, and meaning generation of signs (Gorlée 2022). Signs can be language, images, sounds, etc., and semiotics examines how they represent or refer to things and how they are understood in specific contexts (Chandler 2022). Peirce's theory of semiotics posits that a sign consists of three basic elements: Representamen (the form of the sign), Object (the thing or concept the sign refers to), and Interpretant (the meaning generated through interpretation; CP 5.250). Peirce emphasizes that the meaning of a sign is dynamic, relying on the interaction between the sign and the interpretant (Scheffler 2013). A sign is not merely a static referential relationship but generates meaning through continuous understanding and interpretation in different contexts

and cognitive backgrounds (Sebeok 1978). Therefore, the meaning of a sign is not fixed but changes with interpretation and environment (Pelc et al. 1984). In this framework, a Blank-sign can be defined as a sign form whose representamen is in a blank or unfilled state, relying on the intervention and filling of the interpretant to complete its meaning construction. Wei (2009) refers to general signs as "Real-signs" and believes that Blank-signs, in forms such as blanks, pauses, or gaps, serve as the representamen, and their reference depends on Real-signs for presentation. Blank-signs and Real-signs are interdependent, jointly forming a complete sign system (Wang 2021). Blank-signs not only distinguish meaning in sign activities but also enrich the expressive function of Real-signs, playing roles in separation, indication, and enhancement, making the sign system more layered and expressive.

Any symbol inevitably has a form, and the form of Blank-sign, though different from actual symbols, can be captured and perceived by human senses (Sarkar 2023). The specific forms of Blank-sign shine brightly in different symbolic activities (Zhou and Chen 2023). Actual symbols are "audible, colored, or shaped or a combination thereof," while Blank-sign' forms are "silent, colorless, or shapeless," represented by various "blanks," "gaps," "pauses," "interruptions," or their codes like "0," "nullxx," "notxx" (Zhao 2022). Both actual and Blank-sign' forms only manifest in symbolic activities and systems. Here, we will demonstrate the forms of Blank-sign through various symbolic activities and systems in four different dimensions. The first dimension refers to an infinitely extended line.

2.2.1 One-dimensional: an infinitely extended line

One-dimensional symbolic activities are controlled by time, moving in a single direction from start to end (Figure 1). Such linear symbolic activities are more evident in our reception of sound and acoustics (Nuckolls 1999). For example, speeches, reports, verdicts, or activities like recording, oral communication, vocal performances, and instrumental performances. In these activities, the actual symbol form of one-dimensional symbols is "sound," while the Blank-sign is "silence," specifically manifested as "pauses," "interruptions," "silence," "quietness," etc.

2.2.2 Two-dimensional: a plane with length and width formed by lines

Two-dimensional symbolic activities involve the influence of length, width, and area, occurring on a plane (Figure 2; Saund 2002). Two-dimensional symbolic systems include pages in books, paintings, charts, blueprints, etc. The actual symbols in two-dimensional systems are combinations of lines and blocks that are "shaped" and
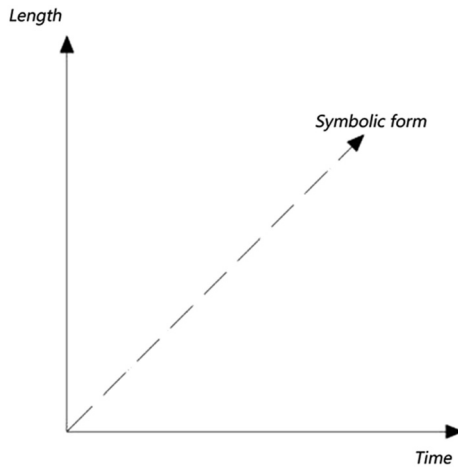
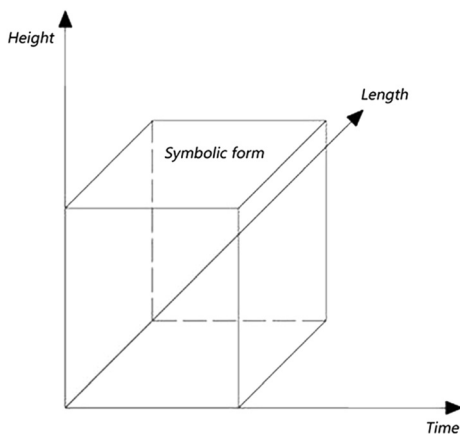**Figure 1:** One-dimensional symbolic coordinates.
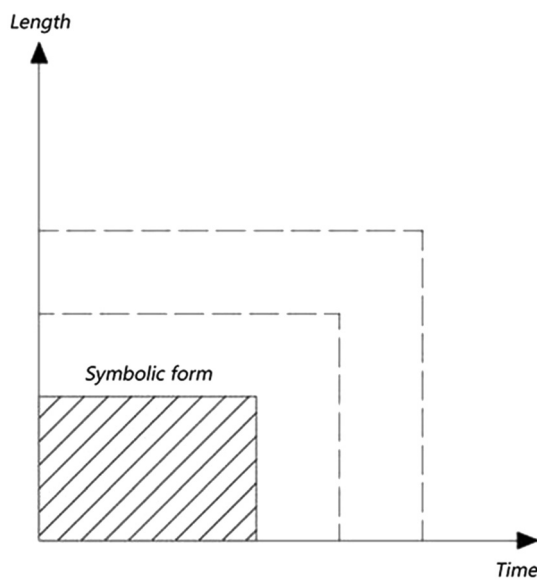
Figure 2: Two-dimensional symbolic coordinates.

"colored" within a certain area; Blank-signs are the "blank" planes outside these actual symbols. In painting, this appears as the "blank" outside the shapes, in writing as the spaces between lines and words, and in charts as "blanks." While specific forms of Blank-sign vary in different two-dimensional systems, they always appear as certain area shapes (Brylinski and McLaughlin 1996).

2.2.3 Three-dimensional: adding height elements to two-dimensional, creating volume and spatial relationships

Three-dimensional symbolic activities and systems involve "length × width × height" situations (Figure 3). Three-dimensional symbolic systems include architecture, landscapes, sculptures, displays, and other three-dimensional combinations (Zhao 2023). Therefore, actual symbols in three-dimensional systems are three-dimensional entities; Blank-sign are the "three-dimensional intervals" between these entities, or some "three-dimensional entities" acting as intervals in the system. This concept of "symbols of symbols" applies similarly to two-dimensional systems (Zhao 2013). In architecture, Blank-signs are manifested as carefully arranged spaces both inside and outside the building, with elements such as screens, windows, and partition walls serving as intervals or transitional spaces, marking the thresholds between different functional areas. These spaces are not merely blank or empty gaps, but are thoughtfully designed to facilitate the flow and interaction between different parts of the building. The arrangement of these elements creates a subtle interplay between openness and separation, reflecting both the physical division of space and the symbolic transitions within the architectural context. Particularly in the context of Tibetan architecture, the design of these transitional spaces highlights the cultural significance of boundaries and connections, emphasizing the dynamic relationship between space and human activity.

Figure 3: Three-dimensional symbolic coordinates.

2.2.4 Four-dimensional: adding time influence to three-dimensional objects, resulting in a state where physical three-dimensional forms change over time

As shown in Figure 4, four-dimensional symbolic activities are moving symbols that change with the passage of time, creating a continuous process. Just like a person from birth to death, a building from construction to collapse, and a civilization from prosperity to decline, four-dimensional symbolic systems and activities are in a constant state of motion and change, with Blank-signs forms changing with actual symbols (Wang et al. 2022). If we must specify forms, the actual form in four dimensions is a series of absolute moving "action strings," while the void form represents the relatively static gaps between symbols, which may be perceived as unchanging due to our limited perceptual capabilities (Rucker 2014). This suggests that what appears static might be a result of our inability to fully perceive motion or change at certain scales or in certain contexts. Therefore, Blank-signs in the four-dimensional system are more abstract and complex, often representing undefined areas that are in continuous transformation, manifested as "absolute moving" action strings, where the boundaries and content are constantly shifting within the system.
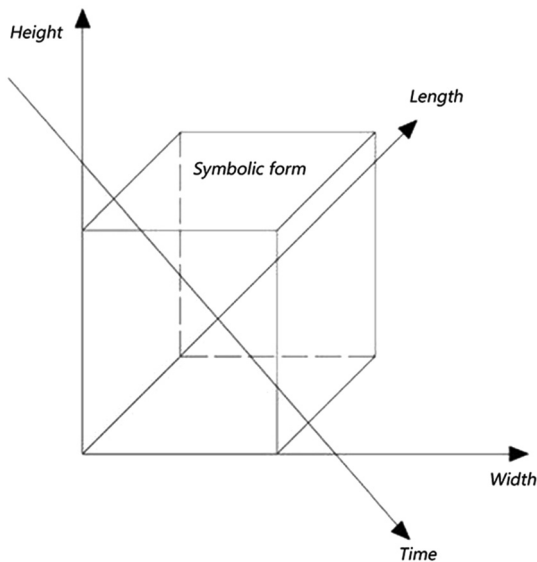
Figure 4: Four-dimensional symbolic coordinates.

3 Analysis of elements of blank-sign in traditional Shangri-La Tibetan architecture

3.1 Integrated analysis of blank-sign in traditional Shangri-La architecture

When viewed holistically, traditional Shangri-La architecture consists of numerous building components and planes, characterized by dimensions of length, width, and height, forming a cohesive three-dimensional entity (Lin 2022). Within this three-dimensional context, the Real-signs of traditional Shangri-La architecture are the various building components with distinct volumes. The Blank-signs manifest as the "intervals" between these components or the "spaces" enclosed by them during the construction process (Zhang et al. 2023).

In the process of constructing and observing architecture, builders first draft the floor plans, elevations, and roof plans to balance the relationships between different building planes before constructing the three-dimensional structure. When visiting a building, observers recognize each plane in succession, ultimately constructing a complete three-dimensional relationship of the building in their minds. While studying traditional architecture, scholars often photograph each elevation of the building to use as visual materials for research. Thus, traditional Shangri-La Tibetan architecture can also be seen as a picture book composed of different architectural elevations, possessing two-dimensional attributes like illustrations (Shojaee and Saremi 2018). Traditional patterns and designs on building facades serve as the Real-signs in these pictures, while "white space" and "intervals" become the two-dimensional Blank-signs in traditional Shangri-La Tibetan architecture.

In the symbolic activities of traditional Shangri-La Tibetan architecture, forms such as intervals, spaces, and white spaces are all consciously created symbolic behaviors. The materials used in Shangri-La traditional Tibetan architecture, such as soil, stones, and wood, are objective entities without symbolic attributes (Hua and Nakatani 2023). It is through human intervention, assigning them functions and cultural connotations, that they become symbols, transforming into building components and decorative elements with solid symbolic attributes, such as walls, bricks, *dougong* ('bracket sets'), and beams. Builders combine these Real-sign according to specific proportions and scales of intervals, spaces, and empty spaces, creating magnificent halls and distinctive traditional dwellings, thereby showcasing the human aspect of blank-signs (Eco 1986). The intervals and spaces set according to specific rules give traditional Shangri-La Tibetan architecture distinct regional and conceptual characteristics. These arrangements of intervals and spaces in traditional Tibetan buildings result from local residents adapting to the local climate and

environment, blending ethnic culture, and being influenced by traditional social norms, thus making the blank-signs an instinctive configuration and arrangement.

The human and subconscious nature of blank-signs in traditional Shangri-La Tibetan architecture essentially reflects the deliberate arrangement of blank-signs like intervals, spaces, and white spaces by the builders (Dong and Jin 2013; Yang et al. 2024). However, because these void elements are essential in construction and their perception requires Real-sign as references, they are often overlooked, with the belief that only Real-sign convey and express the building's functions and cultural connotations (Lotman 1974). In reality, Blank-signs in traditional Shangri-La Tibetan architecture physically define the distances between buildings and the scale and spatial relationships within individual structures. These blank-signs separate and connect various elevations and components, not only ensuring the functional harmony of the architectural layout but also embodying the symbolic value of emptiness in materialized spatial artifacts. The spaces between physical elements, such as the intervals between walls, windows, and partitions, are not mere voids but integral components that convey cultural and symbolic meanings. These gaps facilitate the flow of movement, interaction, and even spiritual connection within the architectural space, emphasizing the dynamic relationship between physical structure and intangible meaning in Tibetan architecture.

Void symbols in traditional Shangri-La Tibetan architecture, through their physical, visual, and psychological effects, complement solid symbols to express the culture, beliefs, lifestyle, and social norms of the Tibetan people. These voids are not merely gaps; they actively shape the spatial experience by creating varying perceptions of openness, confinement, and balance. The arrangement of these voids – whether through spaces between walls, windows, or partitions – guides movement, interaction, and even spiritual reflection, thus creating a dynamic interplay between physical structure and intangible meaning. This interplay fosters a deeper emotional connection, facilitating both a physical and cultural experience beyond the tangible structure of the building (Esler 2013).

3.2 Blank-signs inside and outside traditional Tibetan architecture in Shangri-La

3.2.1 Analysis of blank-signs inside buildings

The intervals formed by the enclosing walls in traditional Shangri-La Tibetan buildings are Blank-signs within the architectural space, functioning as transitional zones between different areas (McRae 2012). For instance, in traditional glitter houses, the "courtyard" formed by the enclosing walls and the front facade acts as a

semi-open Blank-sign, serving as a threshold before entering the interior. This semi-open Blank-sign bridges the contrast between the fully enclosed indoor environment and the open outdoor space. Its open form allows the Blank-sign within the courtyard to extend bidirectionally beyond the walls, helping to mitigate the psychological discomfort caused by the abrupt transition from the relatively enclosed indoor space to the vast, open outdoors.

However, beyond these open or empty spaces, the surrounding environment also features solid symbols – architectural elements or objects that provide tangible structure and substance to the space. These solid symbols fill the voids, offering clarity and meaning to the overall design. Elements such as flowers and plants in a flowerbed can acquire symbolic value, representing the vitality of nature, cultural accumulation, or the breath of life. Thus, the space between Blank-signs and solid symbols is not merely empty or cluttered; it holds layers of meaning through what is omitted, what is introduced, and what exists in the intermediate space (see Figure 5).

Just as a person accustomed to dim light experiences discomfort when suddenly exposed to bright light, the courtyard of a traditional glitter house serves as an important transitional blank sign for residents moving between indoor and outdoor spaces. Traditionally, the courtyard is used for drying meat, hay, barley, and storing fuel such as firewood and dung cakes. Agricultural tools and herding equipment are often placed in a corner (Dong and Chen 2016). As living conditions have improved, traditional Yunnan-Tibet courtyards have gradually evolved from agricultural spaces into Tibetan-style courtyards with a stronger focus on leisure. These courtyards not only incorporate more indoor living elements but also strengthen the connection between the semi-open blank signs and the indoor symbolic system of the glitter house. In this transformation, the leisure space is not simply a physical void; it functions as a symbolic void, representing a mental space freed from the demands of daily labor and production. This leisure void provides a cultural and psychological "gap," allowing individuals to temporarily escape material and functional concerns and enter a state of freedom and relaxation.

Upon entering the glitter house from the courtyard, the interior space is arranged according to the traditional social norms, living habits, and cultural beliefs of


Figure 5: Glitter house courtyard with semi-open Blank-sign arrangement.

the Shangri-La Tibetan people, creating a three-tiered configuration of internal blank signs (see Figure 6). The first floor is typically allocated as an entire layer of blank signs, serving as a "stable" (Holz 2020). Ascending to the second floor via a "ladder," this level's blank signs are arranged based on Tibetan living habits and traditional beliefs. The largest internal blank sign on this floor is the main hall, containing significant Tibetan indoor solid symbols such as the hearth, altar, water pavilion, and central pillar. The main hall serves multiple functions – cooking, living, gathering, and religious activities – requiring the largest blank sign to accommodate the solid symbols within it, making it the central space around which other internal spaces on the second floor converge (Larsen and Sinding-Larsen 2001).

The second most important internal blank sign on this floor is the prayer room. In typical Shangri-La Tibetan homes, the best-oriented, well-lit, and well-ventilated area is prioritized for the prayer room. Though smaller than the main hall, the prayer room contains more intricate solid symbols, such as carvings, paintings, and statues, making it a sacred space for prayer and meditation. Other internal blank signs on the second floor are designated as living rooms, verandas, and storage rooms.

The third floor of traditional glitter houses typically consists of a space entirely made up of blank signs, used as storage lofts for wood, tools, dried meat, and miscellaneous items. As blank signs, these spaces represent functions of storage and temporary holding, playing a crucial role in thermal insulation and waterproofing. Though simple and seemingly empty, they form transitional zones that carry practical utility and cultural significance through their openness and spatial ambiguity.

As traditional Shangri-La glitter houses evolve, the distribution of internal blank and solid signs has adapted to modern living habits. The original first-floor space, once used for livestock, has now been transformed into modern living rooms, kitchens, and bathrooms. These areas, filled with solid signs such as furniture, kitchen appliances, and bathroom fixtures, reflect the practical needs and comforts
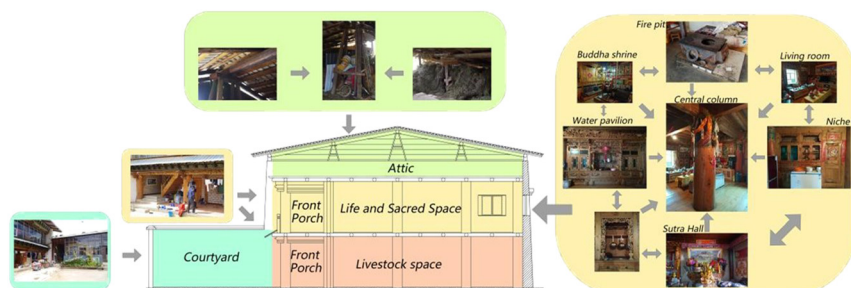
Figure 6: Blank-sign arrangement in the glitter house.

of contemporary life. Through their physical presence and functionality, solid signs give structure and meaning to previously undefined areas.

The integration of blank and solid signs not only enhances spatial functionality but also improves the quality of life for the Tibetan people. By blending the transitional, open-ended nature of blank signs with the concrete utility of solid signs, traditional glitter houses have successfully adapted to modern needs while preserving their cultural core (Holt 2017).

3.2.1.1 Analysis of the blank-signs in door components

In traditional Tibetan architecture of the Yunnan-Tibet area, doors create voids within walls, serving as key entrances and exits. These voids act as nodes for movement and visual lines throughout the architectural space. When a door is closed, the void disappears, allowing for the creation of independent architectural units where the void and Real-sign remain stable. When opened, the void emerges, connecting the Real-sign and facilitating continuous movement (Li and Zhang 2019). This duality defines the symbolic function of doors in the Tibetan architectural system.

Isolating the Tibetan door from the traditional Shangri-La architectural symbolic system reveals a small symbolic subsystem, comprising components such as the threshold, door frame, lintel, and door leaves (see Figure 7). These components are richly decorated with Tibetan carvings and paintings, featuring motifs like lotus flowers, clouds, waves, fire patterns, and more. As solid symbols, these decorative elements carry relatively fixed ornamental or pictorial meanings, often referencing existing cultural objects or referents within Tibetan culture. These symbols are not only visually decorative but also bear deep cultural significance. For instance, lotus flowers symbolize purity and enlightenment, clouds represent the divine and transcendence, waves evoke the flow and transformation of life, and fire often signifies divine power or eternal light. Thus, the solid symbols on the Tibetan door serve not only as aesthetic elements but also as vessels of spiritual, religious, and natural meanings.

The rectangular and linear intervals between these solid symbols form the main void symbols on the door. Void symbols, in contrast, provide a more minimalist form, creating visual and symbolic balance with the solid symbols. They serve as "space" or "transitions," amplifying the symbolic meanings of the solid symbols, and offering viewers a psychological and visual passage from the material world to the spiritual realm.

3.2.1.1.1 Threshold. The threshold is a horizontal wood or stone piece located at the bottom of the door frame, creating a physical and visual "interval" between the door and the ground. As a rectangular blank-sign, the threshold can be interpreted as an

Door lintel

Door frame

Door leaf

Threshold
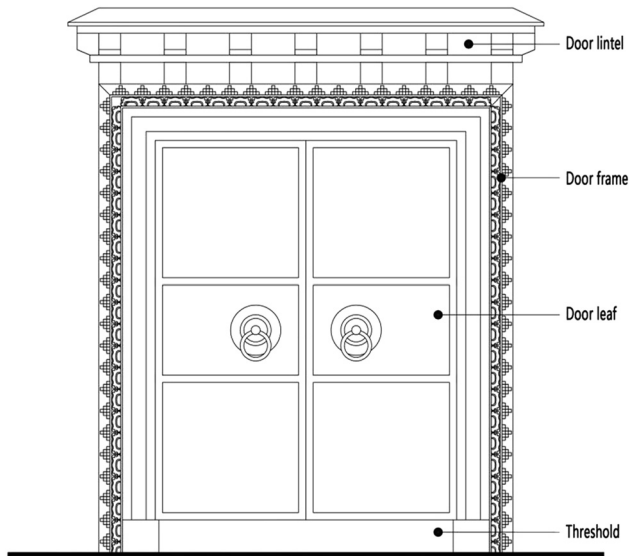
Figure 7: Shangri-La traditional Tibetan door pattern.

indexical sign in the Peircean sense – it signifies a specific action or behavioral expectation, directing individuals to lift their legs over it when entering or exiting (Chudý and Müller 2023). This signifying function transcends its purely physical role, influencing human behavior and creating a subtle psychological boundary between the indoor and outdoor spaces. In Peirce's terms, it functions as an index because it directly points to the action of crossing, establishing a connection between the physical act of stepping and the transition from one space to another (Määttänen 2007).

From a design perspective, the threshold can also be compared to Gibson's concept of affordances, which refers to the possibilities for action provided by an environment (Gibson 2014). The threshold "affords" the action of crossing, signaling to the individual that they must step over it to move from one realm (indoor) to another (outdoor). This relationship between the threshold and action highlights its symbolic significance, not merely as a physical object but as a space that "invites" or "commands" certain behaviors, creating a subtle yet powerful boundary that governs movement and transitions.

3.2.1.1.2 Frame. The primary function of a door frame is to secure the door leaves, forming a "∏" shape around the door. The width and thickness of the door frame depend on the size of the door opening. In traditional residential architecture of the

Yunnan-Tibet area, door frames typically have 3–5 layers of decorations, while in religious buildings, the door frames often have 8–10 layers of decorations. The traditional Shangri-La Tibetan door frames are primarily adorned with carved and colored designs, supplemented by painted decorations. Common motifs include the Eight Auspicious Symbols, the Eight Treasures, the Five Desirable Things, auspicious clouds, arrow designs, and stacked boxes.

Each layer of the door frame displays distinct Tibetan patterns arranged in linear arrays. Carving techniques create recessed voids between real-signs, preventing the design from appearing crowded. These voids are typically painted in low-saturation colors like black or dark green, while the real-signs are depicted in bright, high-saturation hues. This contrast accentuates the distinction between the void and the real-sign, enhancing the symbolic significance of the traditional Tibetan patterns and providing a three-dimensional effect to the door frame (see Figure 8).
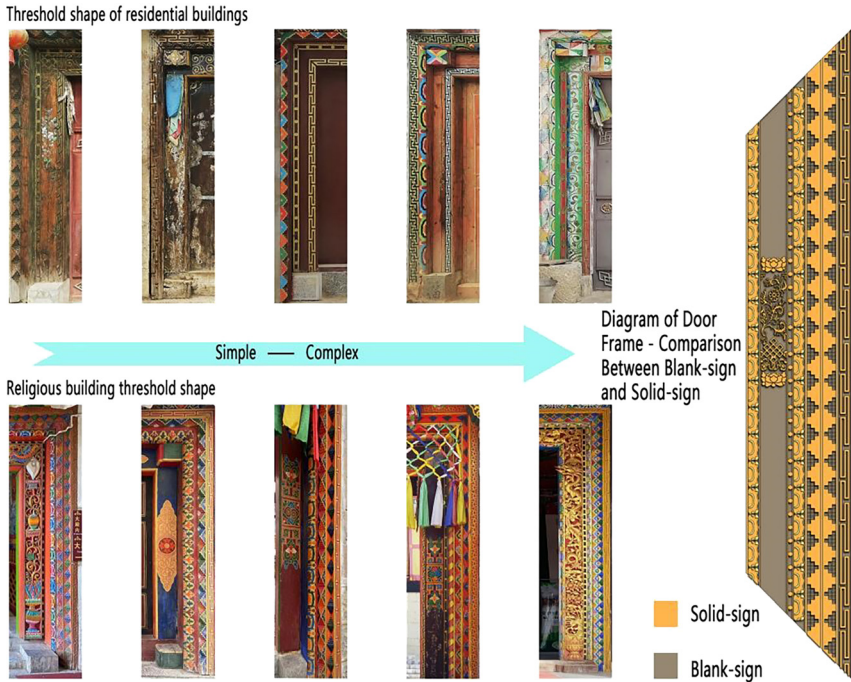
3.2.1.1.3 Lintel. In traditional Yunnan-Tibetan architecture, the lintel serves as a rain cover for the door, preventing rainwater from eroding it. In the Tibetan region, the lintel and the door frame are connected by a door beam, whereas in the Shangri-La region, the lintel is directly installed above the door frame (see Figure 9).

The lintel features protruding layers of short rafters, with each upper layer extending further than the one below it, creating inwardly shrinking "stepped" blank-signs. This design imparts an upward, extending feeling to the lintel, guiding the viewer's gaze upward and enhancing the door's sense of height and grandeur (Zhu et al. 2023).
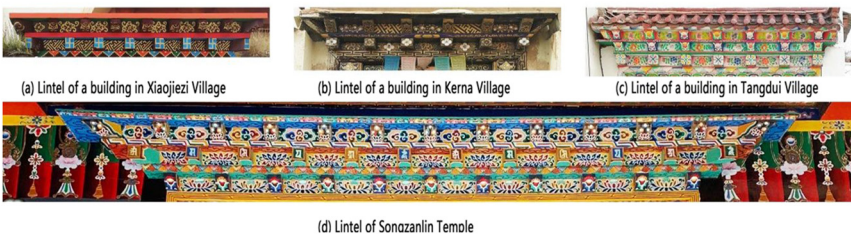
The lower layer of rafters is square, while the upper layer adds two additional rafters, forming a three-sided ring against the wall. The rafters taper into wedges, extending outward and slightly upward. Arranged equidistantly along the door frame, they create strip-shaped gaps that distinguish each layer (see Figure 10). These blank-signs alleviate the heaviness of the solid wooden components, allowing the painted Tibetan symbols on the lintel to appear more dynamic. Additionally, stone slabs placed atop the wooden boards form a drainage system, acting as blank-signs that separate the door from the sky and its surrounding environment.

The door leaves are made of joined wooden boards and can be either single or double-leafed, with double-leafed doors being the main form in the Shangri-La region. The door opens inward, and its size is not standardized but is customized according to the size of the reserved door opening. To protect the door leaves from wind, sun, and rain, they are coated with red primer. The decorations on the door leaves are mainly concentrated on the door strips and door handles. The door strips reinforce the overall structure of the door and are decorated with patterns such as flowers and scrolls. The door handles facilitate the opening of the door and are adorned with motifs like lotus flowers, divine flowers, and animal heads (Figure 11).

Figure 8: Tibetan door frame large pattern with blank-sign arrangement.

(a) Lintel of a building in Xiaojiezi Village

(b) Lintel of a building in Kerna Village

(c) Lintel of a building in Tangdui Village

(d) Lintel of Songzanlin Temple

Figure 9: Traditional Tibetan frieze.

The decorations on the door strips and handles employ carving techniques to create in-between spaces, or recessed blank-signs, which enhance the layering of the raised patterns. In some cases, the recessed areas are painted black, creating a stark contrast with the golden patterns and making the decorations on the door strips and handles appear more three-dimensional. The remaining sections of the door leaves are left unadorned, coated only with red paint, forming large rectangular blank-signs
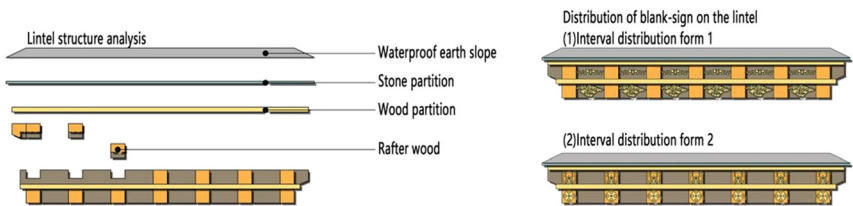
Figure 10: Tibetan lintel structure and distribution of blank-sign.

that highlight the decorative real-signs on the door strips and handles. The interplay of red and black in the blank-sign areas enhances the visual effect of the decorations, making the animal head patterns on the door handles more vivid and imposing, and symbolically effective in warding off evil and filth.

3.2.1.2 Analysis of blank-sign in window components

In traditional Shangri-La Tibetan architecture, windows create significant blank-signs within the overall structure, serving as both ventilation points and apertures. Unlike doors, which sever the connection between interior and exterior spaces when closed, windows maintain this connection, regardless of whether they are open or shut. Due to considerable temperature fluctuations and the cold climate in the Yunnan-Tibet region, Tibetan windows are typically small. However, advancements in modern materials have allowed for larger window sizes in traditional buildings.

Windows introduce voids into the walls, acting as void symbols that not only serve as physical openings but also carry a symbolic function of "emptiness." The walls themselves, as void symbols, maintain the boundary between the interior and
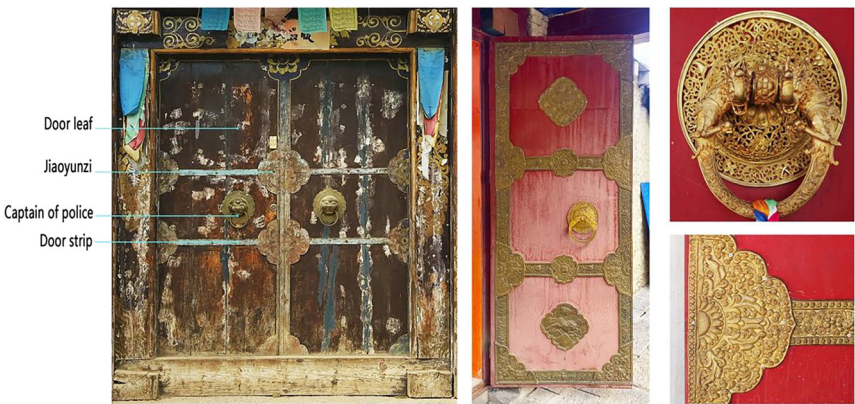

Figure 11: Traditional Tibetan door opening.

exterior while providing a necessary transitional space. As void symbols, windows facilitate the flow of light and air into the interior, breaking the enclosure of the walls and allowing light to shift throughout the day, creating dynamic effects of light and shadow. This enhances both the visual and psychological experience of the space. Therefore, the walls are not merely physical barriers; they also represent symbolic boundaries and transitions. They delineate the interior space while simultaneously enhancing the flow and connection between the interior and exterior through openings such as windows.

From the interior, these windows provide views of the sky, mountains, and wilderness, fostering a sense of openness and spiritual connection with nature within the otherwise enclosed, symbol-dense interiors. In this way, the void nature of the walls is visually and psychologically reinforced, acting as both a boundary and a conduit for connection (Semple 2005).

The structure of the blank-signs in Tibetan windows mirrors that of doors. Components such as the windowsill, frame, lintel, and leaves share similar designs (see Figure 12). Decorations primarily consist of painted motifs, including lotus flowers and geometric patterns, with some carvings. The blank-signs between the real-signs on the windows are predominantly rectangular and strip-shaped, differing slightly from those found on the door leaves.

3.2.1.2.1 Analysis of the window sill in window components. In traditional Shangri-La Tibetan architecture, the window sill serves as a horizontal timber or stone element that separates the window from the wall, aligning the window frame and panel. Similar to the threshold, it functions as a rectangular blank-sign, providing both separation and weight-bearing support. The window frame forms a "∏" shape, enclosing the panel on three sides, and typically consists of two to five layers, depending on the window's proportions.

Single-layer frames are often adorned with motifs such as stacked scrolls, arrow patterns, and lotus flowers arranged around the panel. Carved concave spaces between these real-signs create intervals, which are then painted in contrasting colors to enhance their three-dimensional effect. Much like door frames, linear voids separate each layer of the frame, reinforcing its hierarchical structure and visual coherence (Figure 13).

3.2.1.2.2 Analysis of the window lintel in window components. The window lintel in traditional Tibetan architecture is constructed in a manner similar to that of a door lintel, featuring layers of short beams that protrude outward step by step (Zhang et al. 2018). Each successive layer extends slightly further than the one below, forming a stepped blank-sign arrangement when viewed from the side. At the up-permost layer, the short beams are carved into wedge shapes by sloping them
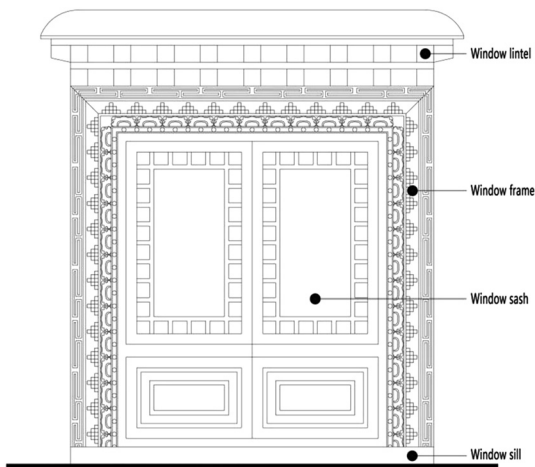
Figure 12: Traditional Tibetan window patterns in Shangri-La.

(Labels in figure: Window lintel, Window frame, Window sash, Window sill)

(Legend: Solid-sign, Blank-sign)

Figure 13: Tibetan window frame outline with blank-sign arrangement.

upward and outward from the interior side, with two additional beams compared to the lower layers. These enclose three sides of the wall, producing a stair-step pattern of blank-signs.

Between each layer of short beams on the window lintel, linear blank-signs – or gaps – are created by inserting wooden boards. Within the same layer, rectangular blank-signs further divide the short beams horizontally along the window frame. At the top of the lintel, stones are placed and covered with clay to form a sloped surface, functioning as another form of blank-sign that separates the window from the wall,
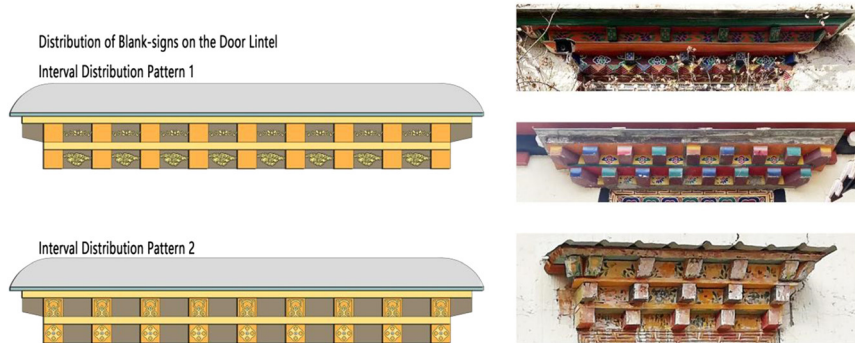
Figure 14: Tibetan window lintel structure and distribution of Blank-sign.

sky, and surrounding environment. This component also plays a crucial role in the drainage system of the structure.

The multiple blank-sign intervals throughout the window lintel not only reduce the visual weight of the heavy wooden components but also add depth and spatial layering (Wong and Lo 2007). From a semiotic perspective, these "empty space intervals" are more than atmospheric design elements that enhance the play of light and shadow or evoke a sense of openness (Byrne 2021). They also carry symbolic value as full signs, deeply rooted in cultural norms and local traditions. While they may appear to outsiders as simple structural gaps, in the context of Tibetan culture, they are imbued with profound symbolic significance. Often integrated with traditional decorative motifs – such as lotus flowers, clouds, and scroll patterns – these voids contribute to the dynamic and graceful aesthetic of the lintel. Thus, by merging physical structure with symbolic meaning, these blank-signs become vital components of the cultural and psychological experience, strengthening the bond between the built environment and Tibetan cultural identity (Figure 14).

3.2.1.2.3 Analysis of the window panel in window components. The window panel in traditional Tibetan architecture consists of the operable panel and the window grid, serving as a crucial component for ventilation and lighting. The operable panel is installed within the window frame, and its translucent glass section is secured by wooden bars with inner grooves. In terms of form, the operable panel can be single-leaf or double-leaf, opening outward on one side of the building.

As an inherently transparent element, the window panel serves as an important Blank-sign in Tibetan traditional architecture, creating a connection between the indoor and outdoor environments (Zhao 2015). This transparency does more than just allow light, air, and views of the external scenery into the interior; it plays a
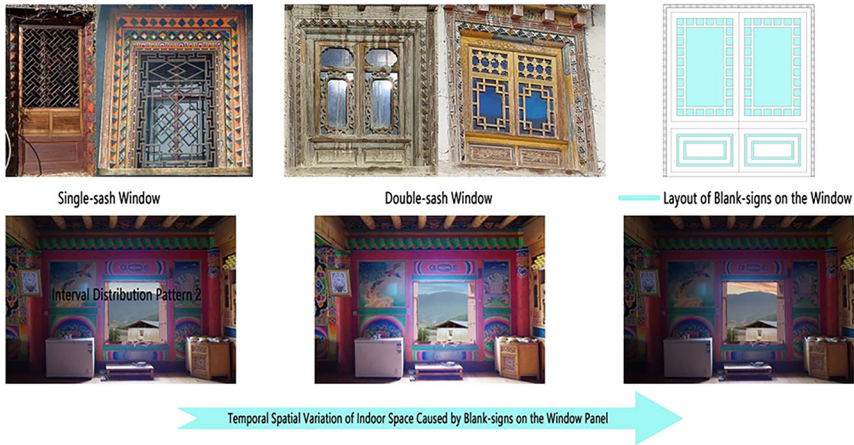
Figure 15: Distribution of Tibetan window sashes and the Blank-sign.

significant symbolic role. Through the gaps in the window panel, the external world integrates into the interior symbolic system, establishing a continuous interaction between the inner space and the external natural landscape, creating a dynamic cultural space (Munro 1987).

This dynamic relationship makes the window not only a physical opening but also a symbolic bridge that links multiple layers of meaning: the interior and exterior, the individual and the collective, the traditional and the modern. As time, light, and seasons change, the transparency of the window alters the atmosphere and the feeling of the space, embodying the deep reliance of Tibetan architecture on both nature and culture for spatial experience.

Furthermore, the transparency of the window evokes a profound sense of belonging. In Tibetan culture, the window is not merely an architectural feature; it is a medium through which tradition is passed on in the face of modernization. The window allows the residents to feel connected to the outside world, others, and their cultural heritage, reinforcing the link between the individual and the tradition, and fostering a sense of continuity and belonging within the space (Figure 15).

3.2.1.3 Analysis of the Blank-sign in traditional beams, brackets, and columns in Shangri-La

3.2.1.3.1 Analysis of the Blank-sign in beam components. Traditional Tibetan architecture in Shangri-La features intricate beam designs that extend into indoor spaces, with each beam decorated in three parts: the beam pad, the beam itself, and the beam cap. In palaces and temples, decorations on the beam pads and caps are primarily

carved, while the beam sections are often painted. Residential buildings follow similar techniques, albeit with less elaborate designs. Notably, the front porches of residences showcase distinct openwork carvings, setting them apart from the more formal temple and palace styles.

The beam pad in Shangri-La's architecture is typically adorned with Great Wall arrow patterns, while the beam cap displays interlocking motifs. Carving techniques create concave grooves as backgrounds for these patterns, often painted in contrasting colors like black or red against the high-saturation colors of gold or white. This contrast highlights the solid decorative symbols, imparting a dignified and orderly appearance to the beam pad and cap (see Figure 16).

The complexity of beam decorations increases significantly in the Zha Cang Hall of Songtsamlin Monastery, where the detailing is particularly refined. The rafters beneath the ceiling and eaves are aligned with slight gaps above the main beams, reminiscent of door and window lintels. Rectangular and strip-shaped Blank-signs extend outward, guiding the viewer's gaze upward and enhancing the architecture's grandeur (Figure 17).
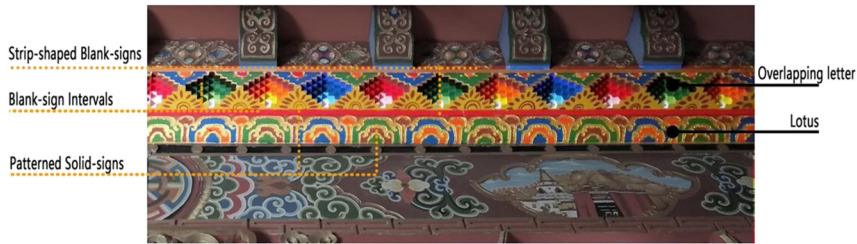
Between the eaves and the main beam, two horizontal timbers are positioned. The upper timber is elaborately carved with raised relief patterns, while the lower
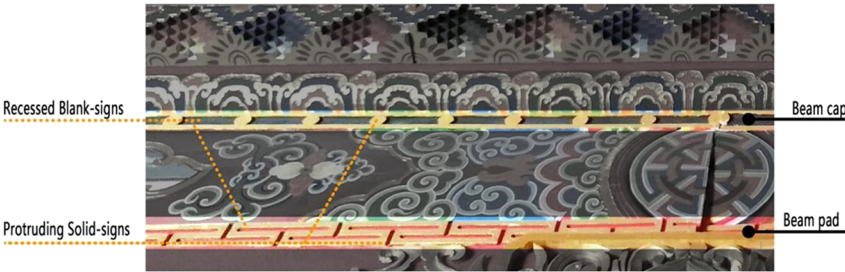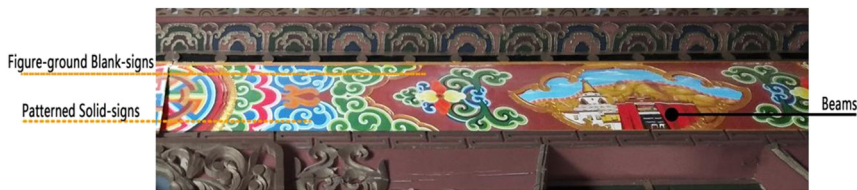

Figure 16: Beam pads, beam caps.

Figure 17: Eaves of the beam.

Figure 18: Beam transoms.

Figure 19: Tibetan monastery beams.

timber features painted lotus petal motifs. The specific arrangement of these timbers reflects Tibetan Buddhist conventions, symbolizing scriptures on a lotus throne. The patterns on the timbers are spaced apart, separated by red wooden boards, creating an architectural configuration that emphasizes the Blank-sign (Figure 18).

Decorations on the beams use the vertical columns as boundaries, segmenting the space into rectangular grids for painted designs. These grids are adorned with floral patterns, clouds, scrolls, and Buddha images. Each grid is framed similarly to " 《》 " symbols, within which Sanskrit scriptures, animals, and dragons are depicted. Real-signs in the grids are highlighted with slightly raised gilded lines, while the void sections are filled with base colors such as red, yellow, blue, and green, either solid or gradient. This interplay between solid and Blank-sign evokes feelings of elegance, nobility, and sanctity (Figure 19).

In contrast, the exterior-facing beams of residential buildings feature extensive openwork carvings as Blank-signs. The Real-signs are left unpainted, presenting a simple and restrained aesthetic. The beam heads facing outward are often sculpted into dragon shapes, adding to their distinct character (Figure 20).

*3.2.1.3.2 Analysis of blank-signs in bracket components (*Que Ti*).* The bracket (*Que Ti*) in traditional Tibetan monastery architecture in Shangri-La is situated between the column head and beam, consisting of upper and lower layers –the long bow above and the short bow below. The decoration of Que Ti is intricately crafted, often

Figure 20: Crossbeams in Tibetan dwellings.

featuring simplified carvings of auspicious clouds and flowers, with red as the base color that enhances the contrast between the patterned Real-sign and the surrounding voids.

Que Ti decorations vary in complexity. Simple designs include painted motifs like treasure vases, lotuses, auspicious knots, conch shells, and Dharma wheels, creating a two-dimensional contrast between void and Real-sign. In contrast, complex Que Ti features carved floral and animal forms, establishing a three-dimensional contrast. The most elaborate designs may house a carved Buddha image in the center of the long bow, resulting in a truly three-dimensional configuration of voids.

These diverse forms of Blank-sign provide rich combinations and expressions for Real-signs. The emphasis on empty and Real-signs transforms each Que Ti into a finely crafted artwork, enhancing the grandeur of traditional Tibetan monastery architecture (Figure 21).

3.2.1.3.3 Analysis of blank-sign in column components. Columns in Shangri-La's Tibetan architecture comprise the column head, shaft, and base, with shapes ranging from circular to square. Circular columns dominate in dwellings, while palaces and temples often feature square or multi-faceted columns. The upper third of the column head and shaft, such as those in the Songtsamlin Monastery, are richly decorated with Real-signs. Column heads typically display Sanskrit scriptures at the top, lotus patterns in the middle, and interlocking designs at the bottom, with red backgrounds accentuating the voids.

The lower two-thirds of the column shaft are adorned with scrolls, geometric designs, and hanging bells, while the lower third remains empty, emphasizing the
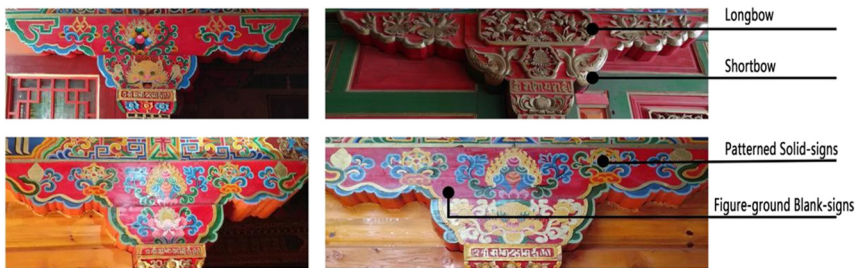
Figure 21: Tibetan Que Ti.

Figure 22: Tibetan column.

Real-sign above. This space serves as finely detailed rectangular partitions on the monastery walls, defining mural dimensions (Figure 22).

The stone bases of the columns create rectangular voids that connect the columns to the ground. Although residential column capitals differ from those in temples in decoration complexity – favoring painted designs over intricate carvings – they maintain consistency in traditional Tibetan architectural style.

3.2.2 Analysis of external architectural blank-sign

In traditional Tibetan-style architecture in Shangri-La – whether residential, religious, or palatial – external symbolic spaces between outer walls are intentionally used to create divisions that distinguish individual structures. These spaces, while maintaining symbolic meaning, are reinterpreted and repurposed according to users' needs and contextual conditions. For instance, the narrow gaps between the

Figure 23: Multiple expressions of architectural outer blank-signs.

outer walls of adjacent Dian-Tibetan buildings are often adapted into shared drainage channels, subtly transforming symbolic separation into practical infrastructure.

When the spacing is increased, these external symbolic zones evolve into pedestrian pathways paved with stone, or even vehicular roads, serving circulation without sacrificing symbolic separation. Notably, prominent Tibetan buildings in Shangri-La are often surrounded by more expansive external symbolic spaces, reinforcing their importance within the spatial hierarchy. Examples include the plaza before the three main halls of the Songzanlin Monastery, the Square Street centered around the White Pagoda in Dukezong Ancient Town, and the viewing platform near the prayer wheels on Turtle Hill.

These configurations allow traditional Tibetan buildings to visually and symbolically stand apart from the larger architectural ensemble. The deliberate contrast between the emptiness of external symbolic space and the presence of Real-signs – the architectural entities themselves – enhances the identity and prominence of individual structures (Byrne 2017; Sadler 2005). In doing so, the surrounding environment becomes a curated backdrop, reinforcing cultural meaning through spatial composition (see Figure 23).

4 Conclusions

In recent years, rapid social progress in China and the global technological revolution have led to the emergence of modern-style buildings that resemble mass-produced, standardized architecture. These structures are widespread in cities, urban-rural transition zones, and rural areas, often lacking the cultural essence of

their time. As a result, they erode regional architectural diversity, creating a homogeneous urban landscape that highlights the growing divide between traditional and modern architectural cultures.

The two primary characteristics of modern architecture are its emptiness for the sake of emptiness, leaving buildings bare like naked individuals, and its form for the sake of form, making buildings resemble acrobatic clowns. There is a casual treatment of space and structure in architecture, with little consideration for buildings as witnesses or continuations of their era. By interpreting the blank-signs in traditional Tibetan architecture in Shangri-La, it becomes clear that the birth of architectural art is based on the combined use of empty and solid symbols within the architectural symbol system. These symbols record the spirit of the times specific to traditional Tibetan architecture in Shangri-La. We should inject these valuable architectural symbols into contemporary new buildings to continue the essence of the times while embodying modern ethnic architectural characteristics.

Understanding the past to interpret the present, we must not forget the achievements of current history amid rapid societal development. Architecture should likewise progress forward through inheritance, integrating the aesthetic use of empty and solid symbols from traditional architecture into modern architectural design and innovation. This approach avoids the phenomenon of temporal disjunction in architecture, promoting the excellent cultural taste of traditional architecture as a hallmark of modern architecture.

In Shangri-La traditional Tibetan architecture, architectural blank-signs hold multiple meanings for the Tibetan culture in the Dian-Tibetan region. They represent material wealth, spiritual sustenance, and the embodiment of Tibetan cultural and social norms. These functions are determined by the necessity of blank-signs for solid symbols in any symbolic system, assisting and referencing various traditional Tibetan architectural solid symbols. They serve as records of Tibetan people's habits, spiritual beliefs, and architectural symbolic activities, forming another chronicle of Tibetan architectural culture. Through the arrangement of various blank-signs and the integration functions of adjusting, highlighting, separating, combining, and connecting solid symbols within architecture, the influence of the Dian-Tibetan environment, beliefs, and social norms on architecture is vividly displayed. This reveals the cultural meanings inherent in the connection and ordering of cultural solid symbols in traditional Tibetan architecture, opening up a new interpretative perspective on Shangri-La traditional Tibetan architectural art.

Studying blank-signs in traditional Shangri-La architecture clarifies that the artistic conception and spirit of architecture are not abstract or indescribable but deeply rooted in specific environments. They are constrained by objective factors such as climate, geography, and humanities, producing specific products with regional adaptability, environmental adaptability, and cultural relevance. They

reflect Shangri-La's unique natural and geographical conditions, embody Tibetan people's reverence for all things, their religious devotion, and their regional understanding of architectural aesthetics, culminating in the magnificent forms of traditional Shangri-La Tibetan architecture. The allure and fascination of Shangri-La traditional Tibetan architectural art stem from the balanced arrangement of blank-signs, enhancing viewers' sense of closeness, interaction, and immersion in the process of receiving information from solid symbols within the architecture. Following the order brought by blank-signs for solid symbols, step by step approaching the architecture, guided by cultural conventions in blank-signs, visitors explore different spaces of Tibetan architecture, experiencing the visual enjoyment of Tibetan art through the combination of empty and solid symbols. The interplay of empty and solid symbols continually stimulates spiritual emotions, conveying the spirit and culture of the profound meaning of traditional Shangri-La architecture to every viewer.

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