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Translation Principles for Chinese Buddhist Architectural Terms: A Case Study of the Mortise-and-Tenon Structure

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Abstract

Taking the mortise-and-tenon structure in Chinese Buddhist architecture as an example, this study explores in depth the translation strategies for terms related to the mortise-and-tenon structure in Chinese Buddhist architecture. Through an analysis of relevant terms, the study proposes translation strategies including literal translation and transliteration with annotations, and illustrates them with specific cases. The aim is to provide a reference for the study of translating Chinese Buddhist architectural terms and thereby promote the international dissemination of Chinese Buddhist architectural culture.

Subject Areas

Linguistics

Keywords

Chinese Buddhist Architecture, Buddhist Architectural Terms, Mortise-and-Tenon Structure, Translation Strategies

1. Introduction

As a treasure of traditional Chinese culture, Chinese Buddhist architecture carries profound historical, religious, artistic, and philosophical connotations. The development of Chinese Buddhist architecture underwent a long evolution from Indian prototypes to Sinicized forms, and its terminological system consequently carries rich cultural connotations [1]. In an era of increasingly frequent international cultural exchanges, accurate translation of Chinese Buddhist architectural terms is of crucial importance for disseminating Chinese culture and promoting cross-cultural understanding and dialogue.

The mortise-and-tenon structure, a distinctive joining method in traditional Chinese architecture, is also widely applied in Chinese Buddhist architecture. As the essence of traditional woodworking craftsmanship, the mortise-and-tenon structure has a long history and is a design symbol older than writing. This joining method, which does not rely on nails or other materials, has created a unique structural form [2]. It not only reflects the superb skills of ancient Chinese craftsmen but also embodies rich cultural concepts and aesthetic values. However, due to cultural differences between China and the West and differences in linguistic expression, how to accurately translate terms related to the mortise-and-tenon structure in Chinese Buddhist architecture into English has become an urgent issue.

This study takes the mortise-and-tenon structure as an example to explore the translation principles for Chinese Buddhist architectural terms. Through an in-depth analysis of the characteristics, functions, and specific applications of the mortise-and-tenon structure in Buddhist architecture, combined with translation theories and practical experience, this study enumerates some principles and methods applicable to the translation of Chinese Buddhist architectural terms. These principles include accurately conveying meaning, ensuring that the target text faithfully reflects the professional connotation and cultural significance of the original term; preserving cultural characteristics, allowing the target text to convey information while also showcasing the unique cultural charm of Chinese Buddhist architecture; and balancing professionalism and readability, meeting the needs of professionals while remaining accessible to general readers. It is hoped that this study will provide a useful reference for the translation of Chinese Buddhist architectural terms and promote the international dissemination of Chinese Buddhist architectural culture.

This study takes the mortise-and-tenon structure as the entry point. The analyzed terms are mainly derived from two sources: first, mortise-and-tenon-related terms in *A History of Chinese Architecture*, which provides a detailed introduction to the mortise-and-tenon structure, the core craft of ancient Chinese architecture [3]; second, terms for mortise-and-tenon structures used in components such as Buddha pedestals in Chinese Buddhist architecture. This study follows three principles: accurately conveying meaning, preserving cultural characteristics, and balancing professionalism and readability. It applies literal translation, transliteration with annotation, free translation, and compound structure segmentation and integration to terms of different naming types and functional attributes, and evaluates translation quality through two dimensions: target reader comprehensibility and usability of the term in professional literature. The establishment of this analytical framework aims to make the selection process of translation strategies more transparent and systematic.

2. Classification of Chinese Buddhist Architectural Terms

Chinese Buddhist architectural terms cover a wide range and can be divided into different categories from different perspectives. This paper lists three classifica-

tion methods, as shown in the following Table 1.

Table 1. Classification of Chinese Buddhist architectural terms.

Building Unit	Building Component	Decorative Art
Buddhist Hall	Dougong (bracket set)	Buddha Statue
Dharma Hall	Caisson Ceiling	Mural
Meditation Hall	Roof Ridge	Sculpture
Sutra Depository	Mortise and Tenon	Couplet

The above classification of Chinese Buddhist architectural terms is mainly divided into three categories: building units, building components, and decorative art. This study focuses on the mortise-and-tenon structure in the "Building Component" category. Starting from the introduction and naming methods of the mortise-and-tenon structure, after in-depth analysis and research, different translation methods are proposed based on Skopos theory, aiming to provide a reference for the translation of Chinese Buddhist architectural terms.

3. Mortise-and-Tenon Structure

3.1. Overview of the Mortise-and-Tenon Structure

The mortise-and-tenon structure is a traditional Chinese woodworking joining method. Without using nails or other metal connectors, it achieves the connection of components by interlocking the protruding part (tenon) and the recessed part (mortise) of the wood. The mortise-and-tenon structure has continuously evolved, mainly in response to changes in people's lifestyles. From the floor-sitting lifestyle of the Shang, Zhou, Spring and Autumn, Warring States, Qin, and Han dynasties to the leg-sitting lifestyle of the Tang, Song, Yuan, Ming, and Qing dynasties, the mortise-and-tenon structure evolved from the simplest forms such as the silver ingot tenon, convex-concave tenon, mitered tenon, and dovetail tenon to various sophisticated forms in later periods [4]. The mortise-and-tenon structure has the characteristics of being structurally firm, aesthetically elegant, and easy to disassemble.

Chinese Buddhist architecture extensively uses timber-frame structures. Timber frames have good toughness and elasticity and can resist natural disasters such as earthquakes to a certain extent. They are mainly composed of columns, beams, horizontal ties, purlins, and other components connected by mortise and tenon. For example, the timber-frame structure of the Main Hall of Foguang Temple in Shanxi has remained stable for a thousand years. Components joined by mortise and tenon can be easily disassembled and reassembled, which is highly advantageous for building repair, relocation, and component replacement. In ancient times, when large Buddhist buildings required repair or relocation, the disassemblability of the mortise-and-tenon structure made such work relatively smooth, and also facilitated the repair or replacement of damaged components, helping to

extend the building's lifespan. The mortise-and-tenon structure is not only widely used in Buddhist architecture but also reflects the high wisdom and superb craftsmanship of ancient Chinese artisans.

3.2. Classification of the Mortise-and-Tenon Structure

In Buddhist architecture, common types of mortise-and-tenon structures mainly include the swallow-tail tenon, zongzi-angle tenon, shoulder tenon, shoulder-inserting tenon, and Baojian tenon. Among them, the swallow-tail tenon is shaped like a swallow's tail and is mainly used for right-angle connections of beams and columns; the zongzi-angle tenon is named for its resemblance to the corner of a zongzi and is often used for frame connections such as door and window frames; the shoulder tenon is divided into single-shoulder and double-shoulder types and is used for connecting columns and beams to increase stability; the shoulder-inserting tenon has an obliquely cut shoulder and becomes more secure after insertion, suitable for connecting large components; the Baojian tenon is used for joining the legs and seat surface of components such as Buddha pedestals, making the structure stable and aesthetically pleasing. These different types of mortise-and-tenon structures have their own characteristics in shape, joining method, and function, and play important roles in different parts of Buddhist architecture.

3.3. Naming Methods for Mortise-and-Tenon Terms

The establishment of a scientifically conceptual designation is a prerequisite for the promotion, dissemination, and standardization of terminology [5]. Therefore, to disseminate China's mortise-and-tenon structure overseas, the naming of different mortise-and-tenon structures needs to follow different principles and methods. Common naming methods for mortise-and-tenon structures include the following:

Naming based on shape characteristics:

Swallow-tail tenon: The tenon is shaped like a swallow's tail, narrow at the root and wide at the end, forming a large-headed shape. This structure has strong tensile strength after joining and is common in beam-column connections in Buddhist architecture. Due to its distinct shape, it is named "swallow-tail" to facilitate identification and understanding by craftsmen and later generations.

Zongzi-angle tenon: Named for its resemblance to the corner of a zongzi. This structure involves cutting specific angles at the junction of the leg and the panel frame to form a zongzi-corner-like shape. It is used at corner connections and frame intersections in Buddhist architecture to ensure structural stability and aesthetics.

Naming based on joining method:

Crossed-hands tenon: Also commonly known as the male-female tenon. A tenon and mortise (or multiple tenons and mortises) are respectively opened at the two ends of two perpendicularly intersecting materials, so that the tenon and mortise intersect like crossed hands. In Buddhist architecture, this may be used

where vertical connections are needed and high aesthetic requirements preclude exposed tenons. The name vividly reflects the joining form of the mortise and tenon.

Shoulder-inserting tenon: The upper end of the leg has a tenon that joins with the connecting component (e.g., beam, horizontal tie). The upper end is opened to embed and clamp the apron. The outer skin of the leg's upper end is cut into a slanted eight shape, which is called "Ba" in Chinese, and a groove is cut at the junction of the apron and the leg. When the apron and leg are tapped together, the apron clamps the slanted shoulder of the leg, as if the tenon is "inserted" into the shoulder, hence the name. This naming directly describes the installation method and the post-connection state of the mortise-and-tenon structure.

Naming based on structural combination or composite method:

Baojian tenon: A relatively complex combination of mortise-and-tenon structures, commonly seen on components such as Buddha pedestals in Buddhist architecture, used for joining the leg with the seat surface and the waist. This structure requires the leg to have a long and short tenon at the top, a slanted shoulder cut below the waist, and a mortise chiseled to fit with the tenon of the apron. At the same time, a dovetail hanging pin is left on the slanted shoulder of the leg to fit with the groove on the back of the apron, providing a "locking" function. Because it consists of a combination of various mortise-and-tenon methods and the post-joining shape resembles the leg "holding" the shoulder, it is called the Baojian tenon.

Transparent tenon with Mitered-corner Tenon Panel Assembly: Composed of a combination of a mitered-corner tenon frame and a transparent tenon structure. In the mitered-corner tenon frame, the longer pieces with tenons at both ends are called "long sides" and the shorter pieces with mortises at both ends are called "end pieces." The end pieces typically have through mortises. The long sides and end pieces are each cut at a 45-degree angle at the joint to form a mitered corner. A groove is cut on the inner side of the frame to insert the panel core. A transparent tenon refers to a tenon that passes through the mortise and is exposed on the other side. This naming reflects the composition and process characteristics of the structure. In Buddhist architecture, this composite structure is often used in the construction of components such as Buddhist shrines and scripture cabinets.

Naming based on position or function:

Base-supporting tenon: "Base support" refers to a structure installed at the bottom of some small architectural components in Buddhist architecture (such as Buddha pedestal bases and scripture platform bases) to increase stability and a sense of solemnity. The base-supporting tenon is the mortise-and-tenon structure used to connect architectural components to the base support. Depending on the form of the base support, it can be further divided into single-form, square, round, etc. The name reflects the specific position and function of the mortise-and-tenon structure.

Pin-hanging tenon: Often used in parts requiring further reinforcement.

Through the fit of the tenon and mortise, combined with the fixation of a pin, the structural firmness is enhanced. In Buddhist architecture, parts bearing significant pressure or frequently subjected to external forces (such as the connection between a large Buddha pedestal and the floor) may use the pin-hanging tenon structure, and the name highlights its connection method and function.

When translating ancient architectural terms, the translator must understand the formation process and cultural characteristics of ancient architectural terms and consider how to achieve vivid and accurate expression as well as cultural resonance in cross-cultural communication [6]. Therefore, the classification, naming methods, and practical application of the mortise-and-tenon structure in Buddhist architecture provide a direct basis for the selection of translation strategies. Depending on the naming method—shape characteristics, joining method, combination method, or functional position—the translation should highlight the corresponding information dimension: terms named after shape should prioritize retaining morphological features; terms named after joining methods should reflect action or state; terms with composite structures should be split and integrated; and terms with strong cultural specificity should consider transliteration with annotation. Accordingly, this study proposes four translation strategies: literal translation, transliteration with annotation, free translation, and compound structure segmentation and integration, making strategy selection well-founded and enhancing the systematic nature and operability of translation methods.

4. Translation Strategies for Mortise-and-Tenon Terms

This study takes Skopos theory, a German functionalist translation theory, as its theoretical basis. Skopos theory was proposed by Hans Vermeer in the 1970s. Its core claim is that the primary determining factor of a translation act is the intended purpose or function of the target text, and the translator should choose corresponding translation strategies and methods according to this purpose. Skopos theory includes three basic principles: the skopos rule, which states that the translation purpose determines translation methods and strategies and is the primary principle throughout the translation process; the coherence rule, which requires that the target text be readable and acceptable in the target language culture and context; and the fidelity rule, which requires that there be a certain coherence and correspondence between the target text and the source text [7]. Applying Skopos theory to the study of architectural terminology translation, some scholars have conducted useful explorations in the field of architectural text translation. For example, Chen analyzed translation strategies for architectural English terms from the perspective of Skopos theory, pointing out that the translation of architectural terms should be based on the translation purpose, using methods such as literal translation and annotation to achieve accurate term transmission [8]. Jin & Liu summarized translation strategies and methods for cave architecture terms under the guidance of Skopos theory, verifying the applicability of Skopos theory in architectural terminology translation [9]. Pan guided the translation of

architectural culture texts of traditional Chinese villages using the skopos rule, coherence rule, and fidelity rule, demonstrating the feasibility of Skopos theory in guiding architectural translation practice [10]. In addition, Zhuge took Chinese Buddhist architectural examples such as the Main Hall of Foguang Temple as research objects and explained the research objectives and translation strategies of the Annotation and Translation of Ancient Chinese Architectural Terms [11]. These studies provide methodological references for this research. Based on this, this study, on the basis of analyzing the different naming methods and functional attributes of mortise-and-tenon terms, applies Skopos theory throughout the selection process of translation strategies to ensure that the target text serves the intended reader groups while maintaining professional accuracy.

4.1. Literal Translation

For mortise-and-tenon structures named based on shape characteristics, their shape features should be accurately described. From the perspective of Skopos theory, literal translation follows the fidelity rule, *i.e.*, the target text should retain the formal features and visual information of the source text as much as possible. For example, "Yan wei Tenon" can be translated as "Swallow-tail Tenon", where "Swallow-tail" vividly depicts the shape of the tenon, enabling readers to intuitively construct an image of the structure and effectively convey the shape feature. Similarly, "Zong jiao Tenon" can be translated as "Zongzi-angle Tenon". These translations directly convey the unique shape of the mortise-and-tenon structure through English translation, allowing target language readers to quickly and accurately understand its appearance.

For structures named based on the joining method, the action or state of joining should be reflected in the translation. For example, "Chaoshou Tenon" can be translated as "Crossed-hands Tenon", and "Chajian Tenon" as "Shoulder-inserting Tenon". Such translations enable target language readers to directly understand how the structure is joined and its post-joining state.

4.2. Transliteration with Annotation

For names of mortise-and-tenon structures that have strong Chinese cultural characteristics and are difficult to convey concisely through free translation, transliteration is used with a detailed annotation in parentheses. From the perspective of Skopos theory, transliteration with annotation is a collaborative application of the skopos rule and the coherence rule. For example, the translation of "Baojian Tenon (a tenon structure used to connect the leg and the waist and apron in Chinese Buddhist architecture)" preserves the Chinese pronunciation while clearly explaining its use in Buddhist architecture. In cross-cultural communication, cultural research, and among those interested in traditional Chinese architecture, this effectively disseminates cultural connotations and facilitates accurate recording and differentiation of specific Chinese mortise-and-tenon structure types in professional architectural literature.

4.3. Free Translation

For some terms that are difficult to understand, the core concept of the mortise-and-tenon term should be distilled, using concise and common English vocabulary to be as clear as possible, avoiding overly complex words and sentence structures. Skopos theory holds that the intended purpose of the target text determines the choice of translation strategy. The adoption of free translation is based on the intended purpose of "rapidly conveying functional information"—when the functional connotation of the term is the core information to be transmitted and the naming form is not the primary goal in cross-cultural transmission, free translation abandons cultural imagery and adopts a function-oriented translation, which is more in line with the skopos rule. For example, the translation of "Base-supporting Tenon". "Base-supporting" directly indicates the functional core of the structure, removing complex modifiers, allowing target language readers to quickly grasp the key point, facilitating understanding in contexts such as daily communication and introductory architecture guides, and lowering the reading threshold.

4.4. Compound Structure Segmentation and Integration

For names of compound mortise-and-tenon structures, first translate each component concisely, then integrate and explain the overall structure in accessible language. From the perspective of Skopos theory, the compound structure segmentation and integration method embodies the unity of the skopos rule and the coherence rule. Through the step-by-step presentation of "first translating the components separately, then integrating and explaining the overall structure", the translation has a clear hierarchy and logical progression, fully satisfying the coherence rule's requirements for readability and acceptability of the target text. For example, "Transparent Tenon with Mitered-corner Tenon Panel Assembly" is first broken down into "transparent tenon", "mitered-corner tenon", and "mortise-and-tenon panel assembly", and then integrated and explained as "a traditional Chinese tenon structure with a specific combination method widely used in Chinese Buddhist architecture furniture and components". This approach gives the translation a clear hierarchical structure, moving from parts to the whole, facilitating step-by-step comprehension by readers, and improving the accuracy and effectiveness of information transmission in both professional teaching and cultural dissemination.

To make the selection of the four translation strategies more systematic and operational, this study further clarifies the applicable scenarios and decision rules for each strategy based on the above discussion. Literal translation is suitable for terms whose shape characteristics or joining methods have corresponding images in the target language or can be directly expressed, prioritizing the retention of image and intuitiveness. Transliteration with annotation is suitable for terms with strong cultural characteristics that are difficult to translate freely and need to be identified as unique Chinese concepts, adopted when literal translation would

cause cultural loss, with transliteration preserving pronunciation and annotation explaining function or use. Free translation is suitable for terms where functional information is core and the naming form is not the primary target for transmission, especially when addressing practical readers, extracting the core function and abandoning cultural imagery to ensure rapid information delivery. Compound structure segmentation and integration is suitable for compound terms, first translating each component separately, then integrating and explaining the overall structure and characteristics for step-by-step understanding.

5. Conclusions

This study focuses on the translation of mortise-and-tenon structure terms in Chinese Buddhist architecture, introduces the different classifications of Buddhist architecture, and from these classifications locates the mortise-and-tenon structure. In addition, this study analyzes the classification, naming principles, and translation strategies for mortise-and-tenon structure terms, aiming to provide a reference for the translation of Chinese Buddhist architectural terms.

First, this study analyzes the concept and characteristics of the mortise-and-tenon structure itself. As a paradigm of traditional Chinese woodworking craftsmanship, it has notable features such as structural firmness, aesthetic elegance, and disassemblability, as well as a rich variety of classifications, such as the swallow-tail tenon and zongzi-angle tenon, and its naming follows multiple dimensions, including shape characteristics, joining methods, structural combination or composite methods, and position and function. In Buddhist architecture, it is widely applied in key parts such as beams and columns, dougong, doors and windows, and Buddha pedestals, playing a crucial role in the stability, aesthetics, and cultural connotation of the buildings.

Second, this study, based on Skopos theory, proposes a systematic set of translation strategies for mortise-and-tenon structure terms, including literal translation, transliteration with annotation, and free translation. Literal translation, applied to terms named after shape characteristics or joining methods, precisely selects English words to depict the shape or reflect the joining action and state, allowing readers to intuitively understand the appearance and joining mechanism. Transliteration with annotation is suitable for terms with rich cultural characteristics that are difficult to translate freely, preserving the pronunciation through transliteration and adding annotations to explain the use, effectively disseminating cultural connotations and aiding professional recording and differentiation. Free translation extracts the core concept and uses concise, common vocabulary to present the functional core, reducing difficulty of understanding. The compound structure segmentation and integration method translates the components of a complex term separately and then integrates and explains the overall structure and characteristics, improving the accuracy and effectiveness of information transmission. This study further clarifies the applicable scenarios and decision rules for each translation strategy, making strategy selection more systematic and

operational.

The target translations proposed in this study are primarily intended for three types of use scenarios: academic translation, professional architectural literature translation, and cultural promotional translation. Among these, transliteration with annotation is especially suitable for professional literature and academic research, facilitating accurate recording and differentiation of specific Chinese mortise-and-tenon structure types. Literal translation and free translation are more suitable for daily communication scenarios such as tour guides and introductory architecture introductions, lowering the reading threshold for readers. Second, it should be noted that there are certain differences in the names and classifications of mortise-and-tenon structures across different regions of China, and different reference works may not be entirely consistent in their definitions of terms. Therefore, the English translation solutions proposed in this study are not exclusive or the only possible translations, but rather reasonable choices made based on existing literature research and case analysis, with certain demonstrative and referential value. In actual translation practice, translators should flexibly choose and adjust translation strategies according to the specific context, target readers, and translation purpose.

In summary, these translation strategies take multiple factors into consideration. They not only facilitate the accurate international dissemination and exchange of Chinese Buddhist architectural mortise-and-tenon structure terms, allowing the world to better appreciate the unique charm of traditional Chinese Buddhist architectural techniques and culture, but also provide different approaches for the translation of other Chinese Buddhist architectural terms and even broader traditional Chinese architectural terms, thereby contributing to the dissemination of Chinese Buddhist architectural culture to a certain extent.

Conflicts of Interest

The author declares no conflicts of interest.

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