

Representational, Interactional, and Organizational Meanings of the Tourism Linguistic Landscape in Dunhuang

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ABSTRACT

This study selects the Mogao Caves and Mingsha Mountain Crescent Spring as representative cases to investigate the tourism linguistic landscape. By analyzing its structural features through the lens of spatial discourse analysis, this research explores the inherent interactive mechanisms among representational, interactional, and organizational meanings. The findings show that in terms of representational meaning, the linguistic configurations mirror the convergence of internationalization and historical legacy, constructing a spatial narrative centered on the "Sense of Community for the Chinese Nation." Regarding interactional meaning, managers reshape the dynamic balance of power between hosts and guests by regulating the spatial positioning of signage. From the perspective of organizational meaning, the material composition and color schemes of the signage effectively establish a coherent visual order and a logic for spatial diversion. The synergy among these three dimensions serves as a critical instrument for facilitating spatial governance and fostering cultural identity.

Keywords: *Tourism linguistic landscape, Spatial discourse, Spatial governance, Cultural identity.*

1. INTRODUCTION

As a critical node city on the ancient Silk Road, Dunhuang—home to sites such as the Mogao Caves and Mingsha Mountain Crescent Spring—serves not only as a field for domestic and international tourists to perceive Silk Road culture but also as a typical arena for cross-cultural communication. In these high-density interaction spaces, the linguistic landscape has emerged as an essential tool for the localization, modernization, and internationalization of tourism scenic areas [1]. Landry & Bourhis defined the linguistic landscape as the "collection of language on public road signs, advertising billboards, street names, shop signs, and government signs within a public space" [2]. Existing research on tourism linguistic landscapes has primarily focused on code statistics within two-dimensional textual planes [3-5]. In 2016, Ravelli & McMurtrie mapped the three meta-functions of Halliday's [6] systemic functional linguistics onto three-dimensional space, emphasizing that spatial

texts do not merely reflect social reality but actively co-construct it. For Dunhuang, a city on the Silk Road, the linguistic landscape is more than a tool for visitors to quickly obtain information; it is a spatial medium linking modern tourists with ancient Silk Road imprints. Foucault's classic definition of "heterotopia" emphasizes that a real place can simultaneously juxtapose several different spaces or fields [7-8]. The scenic areas of Dunhuang assemble grottoes and buildings from various eras in a single location. Following the intervention of the tourism industry, the meanings of local spaces and places have been reconstructed through the linguistic landscape, making the coordination among these meanings critically important.

2. RESEARCH STATUS AND THEORETICAL FRAMEWORK

2.1 *Research Status of Tourism Linguistic Landscapes*

Research on tourism linguistic landscapes originated from a shift in sociolinguistic perspectives regarding language functions within tourism fields. Dann argued that tourism language is not a neutral carrier of information but an invisible mechanism of social control [9]. Subsequently, scholars such as Edensor and Coupland defined tourism discourse as an explicit tool for social display and a highly performative operational mechanism [10-11]. From this perspective, language is no longer a transparent window for information but a performative resource deliberately designed to construct specific experiences. For instance, research on the Palace Museum demonstrates that English has transcended basic communication to be reshaped into a commodity with symbolic value [12].

Lefebvre proposed the triad of spatial production—spatial practice, representations of space, and representational space—after which the linguistic landscape was no longer viewed as a single information dissemination tool, but as a synthesis of space and semiotics [13]. With the rise of the "spatial turn," Leeman & Modan combined political economy perspectives to analyze how language is redefined as a commodity through the dimensions of context, history, and space, thereby revealing the ideologically charged nature of social construction behind the landscape [14]. The tourism linguistic landscape represents a "virtual communication" established between the scenic area and tourists; its effective construction requires a balance between the diverse identities of tourists and the linguistic rights of minority groups [15]. These studies indicate that academia is gradually shifting its research focus from two-dimensional sign statistics to three-dimensional spatial narratives, providing a theoretical basis for this study.

While existing research has formed a multidimensional framework, a horizontal comparison reveals persistent similarities in site selection and analytical paradigms. First, research subjects exhibit clear urban-centrism and follow the commercial logic of globalized developed cities [16-20]. Although some scholars have begun to focus on multi-ethnic integration areas [21-25] and campus linguistic landscape construction [26-27],

systematic investigations into complex cultural fields remain marginalized compared to the vast volume of urban studies. Regarding analytical dimensions, focus remains primarily on code statistics, official attributes, and translation norms of signs [28-29]. These view the linguistic landscape as a static physical plane. However, for regions with profound historical heritage, the choice of code is no longer merely a tool for current communication, but a significant manifestation of historical imprints being recontextualized in modern space. Given this, this study focuses on the linguistic signs of the Mogao Caves and Mingsha Mountain Crescent Spring in Dunhuang. Utilizing the Spatial Discourse Analysis framework [30], and building upon two-dimensional research, this study proceeds from three dimensions—representational, interactional, and organizational meaning—to examine how tourism linguistic landscapes achieve recontextualization in complex spatial scenes and to analyze the interaction between linguistic symbols, historical memory, and physical space from a three-dimensional perspective.

2.2 *Spatial Discourse Analysis Framework*

The Spatial Discourse Analysis framework is grounded in Halliday's three meta-functions of systemic functional linguistics [31]. Representational Meaning Corresponds to the "Ideational Function," focusing on how linguistic signs transform static historical texts into dynamic spatial texts and represent Dunhuang's unique historical identity through code configuration within physical space. Interactional Meaning Corresponds to the "Interpersonal Function," focusing on the regulation of behavior and the construction of social relations by spatial symbols. This study primarily explores how linguistic signs maintain order through varying degrees of tone and how they achieve a transition from authoritative control to tourist-centered guided service by altering spatial layouts. Organizational Meaning Also known as "Compositional Meaning," this corresponds to the "Textual Function" and focuses on the internal structural coherence of spatial texts. By examining the integration of sign materials with the desert environment and the typographic layout of codes, this study reveals how signs utilize visual information to manifest the discursive advantage of local culture. Representational, interactional, and organizational meanings do not exist independently; rather, they are symbiotic, co-occurring, and operate in synergy.

3. RESEARCH DESIGN

3.1 Research Methods

This study designates the two major scenic areas located southeast of Dunhuang—the Mogao Caves and Mingsha Mountain Crescent Spring—as the field investigation zones. A total of 268 valid samples were ultimately selected through exhaustive photography of all visible linguistic signs within these areas. Due to heritage conservation restrictions at the Mogao Caves, data collection was limited to exterior areas, and adjustments were made for the sparse distribution of signs in the desert terrain of Mingsha Mountain. The captured dataset encompasses public road signs, street markers, building numbers, billboards, large-scale posters, and shop signs, all of which were screened according to three strict validity criteria: first, the completeness of the carrier, requiring that physical mediums such as indicator boards or electronic screens be clearly photographed to identify their shape and material; second, the completeness of language, ensuring that all textual content, including multilingual translations and annotations, is fully presented; and third, clarity and uniqueness, whereby only the most complete version of a sign was retained while redundant or blurred images were excluded. Subsequently, the study utilized MAXQDA software to systematically analyze these samples, constructing a comprehensive coding system based on sign materials, code types, and the relative proportions of various linguistic codes.

3.2 Research Questions

Representational Dimension: How does the linguistic landscape of Dunhuang's two major scenic areas reconstruct Silk Road imprints and represent its own historical identity through the configuration of linguistic codes and content?

Interactional Dimension: How does the linguistic landscape build a service-oriented interaction between managers and tourists by regulating code placement and social distance?

Organizational Dimension: How do the physical attributes of the linguistic landscape achieve the separation of private and official spaces through the design of visual coherence and salience?

4. ANALYSIS OF INTERACTIONAL RELATIONS IN TOURISM LINGUISTIC LANDSCAPES BASED ON THE SPATIAL DISCOURSE ANALYSIS FRAMEWORK

In linguistic landscape practices, beyond informational and symbolic functions, signs can convey symbolic meanings such as exoticism, historical depth, and hospitality. [32] “Table 1” presents the statistical distribution of sign functions in the two major scenic areas of Dunhuang, showing an uneven distribution among various types. Interpretive Signs Accounting for the highest proportion at 50.75%, these signs occupy a dominant position. This reflects the emphasis placed on the knowledge representation of iconic attractions within the spatial layout. Through relevant discourse, physical space is reconstructed into a narrative field, guiding tourists from mere visual sightseeing to interactive cognition. Directional (19.78%), Commercial (11.57%), and Warning Signs (11.19%); These are relatively balanced in number. This indicates that the scenic areas have achieved a dual balance across guidance services, commercial operations, and disciplinary order. Political Propaganda Signs Accounting for 6.72%, these signs follow a "small but refined" layout strategy. Their deep integration with the overall environment of the scenic area implicitly presents a visual declaration of national cultural sovereignty.

Table 1. Functional classification statistics of signs in Dunhuang's two major scenic areas

Classification	Typical Text Examples	Quantity	Percentage
Interpretive Signs	"Geological Formation of Crescent Spring"	136	50.75%
Directional Signs	"Camel Riding Point"	53	19.78%
Commercial Signs	"Dunhuang Specialty Products"	31	11.57%
Warning Signs	"No Drone Zone"	30	11.19%
Political Propaganda Signs	"The Chinese Nation as One Family"	18	6.72%

From a functional perspective, certain signs are primarily used to regulate tourist behavior and ensure safety within the scenic areas, such as "No Drones" or "Caution: Steps". These signs frequently employ imperative discourse. Another category focuses on spatial orientation and location prompts, such as "Entrance," "Restroom," and "Parking Lot," utilizing concise text or symbols to provide spatial guidance. In terms of content attributes, the scenic areas feature signs designed to convey information about specific attractions. Some of these signs interpret historical backgrounds, such as the dynasties and artistic characteristics of the Mogao Caves murals. Others explain natural wonders, such as the geological formation of the Crescent Spring. There are also couplets at scenic spots, such as "Gathering drops of water to form a spring reflects great tolerance; accumulating grains of sand to form a mountain signifies self-contentment," whose core function is to transmit the cultural and natural essence of the scenic area. In private sectors of the scenic areas, signs primarily disseminate commercial information, including shop names, business scopes, and real-time pricing, directly serving transactional activities. Furthermore, a segment of the linguistic landscape functions to convey mainstream social values and ideologies. For instance, signs in the Mingsha Mountain Crescent Spring area—such as "People have faith, the nation has hope, and the country has strength" (reflecting the concept of common prosperity) and "The ethnic groups are one family, building the Chinese dream together" (reflecting ethnic unity)—possess clear ideological guidance. This study adopts the spatial discourse analysis framework as its theoretical foundation to explore the generative mechanisms of the linguistic landscape within Dunhuang's two major scenic spaces across three dimensions: representational meaning, interactional meaning, and organizational meaning.

4.1 Representational Meaning

4.1.1 Code Representation

The linguistic codes within the landscapes of Dunhuang's two major scenic areas are categorized into three types: monolingual, bilingual, and multilingual signs. These exhibit a prominent characteristic of Chinese dominance supplemented by multiple languages ("Table 2"). This progression from monolingual to multilingual configurations aligns with specific sign functions and reflects a hierarchical linguistic landscape system for language services. The signs encompass four languages—Chinese, English, Japanese, and Korean—manifesting in diverse forms: monolingual signs consist of Chinese or English; bilingual signs feature Chinese-English combinations; and multilingual signs primarily include all four codes.

These language combinations have formed a clear hierarchical order significantly related to linguistic power. High-prestige cultures grant their languages a power that exceeds the social status of their speakers, whereas low-prestige cultures see their linguistic power diminish, sometimes leading to the displacement of their dominant status by other powerful languages. [33] As a global lingua franca, English possesses linguistic power resulting from the synergy of historical colonialism, international political-economic structures, and cultural hegemony. Within the linguistic hierarchy of Dunhuang's two scenic areas, English occupies an absolute dominant position second only to Chinese. In contrast, Japanese and Korean must rely on Chinese and English to appear within the landscape, showing a marked difference in power compared to English. This ordering of codes is not merely cultural ethnocentrism but a spatial representation of the coordination between global logic and local tourist demographics. As Chinese is the national common language and English is the global common language, the use and selection of these two languages possess clear interpretability.

Table 2. Types of linguistic signs in Dunhuang's two major scenic areas

No.	Category	Quantity	Percentage (%)
1	Monolingual Signs	161	60.1%
2	Bilingual Signs	85	31.7%
3	Multilingual Signs	22	8.2%
Total		268	100%

4.1.2 Content Representation

The linguistic signs in Dunhuang's two major scenic areas transform the tourism space into a typical field integrating science education and political guidance through the construction of three sectors: "scientific discourse," "humanistic discourse," and "political discourse". Within this linguistic landscape system, certain signs break away from traditional surface-level introductions by introducing professional discourses from fields such as geology, physics, and conservation science. The objective is to enable tourists to acquire relevant natural scientific knowledge during their visit. ("Figure 1", "Figure 2")



Figure 1 Digital imaging preservation technology.



Figure 2 Sandstone and mudstone profile of Crescent Spring.

In the relevant areas of the Mogao Caves, signage details the microscopic nuances of "Digital Imaging Preservation Technology," while at Mingsha Mountain Crescent Spring, signs provide in-depth interpretations of the geological structure of the "Sandstone and Mudstone Profile". This high density of technical terminology constructs a high-context cognitive space. Rather than treating tourists as mere spectators, it positions them as inquisitive learners. "Multimodality" refers to the comprehensive response of the human sensory system to the objective world during communication, serving as a channel and medium for meaning exchange through forms such as text,

images, and video. Given the varying educational backgrounds of tourists, abstract concepts on signs can lead to reading barriers and a sense of alienation. Consequently, the linguistic signs employ multimodal presentation strategies to demonstrate digital technological innovations and geological evolution processes, guiding tourists beyond traditional visual surfaces to deeply understand the era-appropriate technological reforms behind the heritage through a combination of text and graphics.

Furthermore, the signage systems at both scenic areas construct landmarks of modern guardians' deeds within the physical space through specific biographies. Signs dedicated to the stories of Dunhuang guardians such as Chang Shuhong, Duan Wenjie, and Fan Jinshi are specially installed. For instance, the signs detailing "The Daughter of Dunhuang," Fan Jinshi, describe her six decades of devotion to the Northwest and her contributions to transitioning Dunhuang from rescue-based protection to scientific and digital preservation. These content representations extend the narrative timeline from the modern era to the present, successfully reifying abstract cultural heritage into the "Mogao Spirit" (perseverance in the desert, selfless dedication, courage to take responsibility, and pioneering progress) by recounting the stories of the older generation of guardians. Kress & van Leeuwen posit that colors and shapes exert a direct, unmediated psychological influence on human emotions. [34] As tourists observe the physical heritage, they establish a trans-temporal emotional connection with the first generation of "Mogao people," an emotional intervention that effectively shortens the social distance between tourists and historical subjects. ("Figure 3", "Figure 4")



Figure 3 Signs detailing the deeds of modern guardians.



Figure 4 Signs detailing the deeds of contemporary guardians.

As a region characterized by multi-ethnic integration in Northwest China.[35] Dunhuang's establishment of political linguistic signage further expands the dimension of representational meaning. Political linguistic signs, such as "The Chinese nation is one family; building the Chinese dream together with one heart" and "Socialist Core Values," are deeply integrated into the scenic areas. The juxtaposition of signs introducing the deeds of Dunhuang guardians with traditional moral signage, such as "Twenty-four Filial Pieties" and "Twenty-four Sincerities," achieves an organic fusion of politics and ethics. This representational strategy reflects Dunhuang's active practice in strengthening the "Sense of Community for the Chinese Nation". Furthermore, it serves as a constant reminder to both domestic and international tourists that the Dunhuang scenic areas are not only world-class cultural heritage sites but also carry the significant mission of establishing national cultural sovereignty and fostering national identity. ("Figure 5", "Figure 6")



Figure 5 Political signage.



Figure 6 Traditional moral signage.

4.2 Interactional Meaning

Interactional meaning refers to how spatial texts construct social relationships between designers and users. In the context of Dunhuang's scenic areas, the linguistic landscape is not merely a static carrier of information but a dynamic medium for interaction. Building upon the four dimensions of visual grammar—contact, power, social distance, and involvement—proposed by Kress & van Leeuwen, [36] Ravelli & McMurtrie added a fifth system: control. This five-dimensional model forms the basis for analyzing the interaction between scenic managers and tourists through two core aspects: vertical height and horizontal layout.

4.2.1 Code Hierarchy and Behavioral Discipline Under Vertical Height

Power relations in spatial texts are established not only through textual content but also through the vertical height of signs in physical space. A higher vertical position represents stronger dominant power. This aligns with the concept of code preference in the geosemiotics of Scollon & Scollon, which posits that when two or more languages appear on a sign, one serves as the dominant code while others are peripheral. [37] Code priority is determined by spatial position: the dominant code is centered in a centered layout, at the top in a top-bottom layout, and on the left in a left-right layout.

Within the linguistic signs of Dunhuang's two major scenic areas, the allocation of vertical space exhibits a strict hierarchical order, where Chinese, as the official language, consistently occupies the top or central position, significantly exceeding other peripheral codes in terms of font size and visual salience. Taking warning signs such as "No Photos" or "Do Not Touch" as examples, Chinese serves as the primary information in the most

prominent upper position, while codes like English and Japanese are relegated to the bottom or peripheral areas as foreign language translations, fulfilling a purely instrumental and auxiliary role. Furthermore, behavioral control is enforced through the use of high-modality negative imperatives—such as "Prohibited" or "Strictly Forbidden"—coupled with high-contrast warning colors like red, white, and black to visually construct a sense of an impassable boundary. This relationship between linguistic codes reflects the power dynamic between the host and the visitor within the physical space; by controlling the vertical sequencing of codes, managers ensure that international tourists receive necessary information while firmly maintaining the authority to define and govern the scenic space.

4.2.2 Interactional Space and Flexible Inclusivity under Horizontal Layout

On the horizontal dimension, a "host-guest dialogue" is constructed by shortening social distance, regulating involvement thresholds, and increasing flexible contact. First, the gradual approach of physical distance reconstructs the dialogue space. Hall's proxemics quantifies interpersonal distance into four zones: intimate, personal, social, and public. [38] Within these, social distance is divided into close phase and far phase; the near phase (approximately 1.2-2.1 meters) is commonly used for casual social gatherings, while the far phase (approximately 2.1-3.7 meters) is used for more formal business or social conversations, with the former clearly offering higher involvement. Additionally, personal distance (approximately 0.45-1.2 meters) can be understood as the minimum distance a biological organism maintains for its own activities, often used for close communication between acquaintances. To enhance tourists' understanding of the scenic areas, the interpretive signs at Dunhuang's two major sites feature high word counts, small font sizes, and high information density. This design forces tourists to approach the signs to read the text clearly, placing them precisely within the range of personal distance. When tourists enter this distance, their field of vision is completely filled by the sign; they shed their disciplined collective identity and interact one-on-one with the heritage text as independent individuals, thereby increasing the immersion of knowledge transfer.

Second, involvement serves as another core dimension of spatial discourse, defining the manner and intensity of the audience's engagement with the text. Most interpretive and directional signs in Dunhuang's two major scenic areas are situated along roadsides or at intersections, presenting a non-obstructive spatial posture. This layout is largely dictated by the necessity of cultural relic protection and the constraints of pedestrian flow. Such a positioning strategy, based on the reality of the environment, objectively constitutes the "Oblique angle" described by Kress & van Leeuwen. [36] Unlike the "confrontational" nature and "high involvement" associated with a frontal perspective, a side-on perspective represents a form of "detached engagement." This spatial relationship ensures the signs do not dominate the interactant's central field of vision but instead exist as companions to the environment. This design, characterized by high welcome but low involvement, grants tourists the right to decline reading, thereby objectively respecting their subjectivity and autonomy of action—a reflection of a "people-oriented" logic in spatial governance.

Third, the dimension of contact focuses on whether there is "eye contact" between the image and the visitor. The combination of multilingual strategies and polite discourse narrows the psychological social distance between tourists and the scenic area. Although scenic signage lacks literal gaze exchange, the choice of linguistic codes and the modality of tone directly regulate psychological distance. The scenic areas extensively utilize quadrilingual signs in Chinese, English, Japanese, and Korean, breaking the exclusivity of a single language. In particular, providing native language services for Japanese and Korean tourists conveys a strong sense of acceptance and welcome at a psychological level. At the same time, most interpretive signs employ a declarative tone or service-oriented discourse such as "warm tips." This strategy effectively transforms managers from supervisors into guides on equal footing with tourists, while also building an emotional bridge for visitors from diverse cultural backgrounds.

4.3 Organizational Meaning

Organizational meaning is an inherent part of meaning construction, focusing on the texture and integration of spatial texts. van Leeuwen argues that the way spatial texts are organized plays a crucial role, providing coherence and a meaningful

structure to the spatial layout. [39] The linguistic landscape aggregates unrelated elements within a space to form a coherent narrative structure. In Dunhuang's two major scenic areas, the linguistic landscape achieves a joint construction of modern facilities and the ancient Silk Road environment at a physical level through specific material choices and layout designs. The texture of a sign is the foundation of meaning construction; tourist attractions rely on the material, shape, color, and visual impact of text on linguistic landscape signs to convey information. The following analysis expands on three dimensions: material, color, and integration.

4.3.1 Material

As shown in “Table 3”, among the material compositions of signage in Dunhuang's two major scenic areas, aluminum alloy accounts for the

highest proportion at 35.1%. However, at the semiotic level, managers employ wood-mimicry and stone-mimicry treatments, allowing modern industrial materials to visually merge with the scenic environment. This achieves an "ecological isomorphism" between artificial facilities and the Gobi Desert or grotto ruins, maintaining the continuity of the heritage space. In contrast, private signage utilizes PVC plastic, LED screens, and glass—high-saturation materials with opposing textures—to grant commercial information extreme visual salience. Mimetic material signs, using wood and stone, attempt to construct a sense of permanence at the visual level. Conversely, industrial material signs, utilizing highly modernized materials, tend to create a temporary commercial atmosphere aimed at rapidly inducing consumer desire. Through these material differences, an effective diversion of spatial functions is achieved.

Table 3. Statistics of signage materials in the two major scenic areas of Dunhuang

Material	Count	Percentage (%)
Aluminum Alloy	94	35.1%
PVC Plastic	68	25.3%
Wood	53	19.8%
Marble	32	11.9%
Sandstone	9	3.4%
Electronic Displays	9	3.4%
Glass	3	1.1%

Furthermore, morphological bionics is employed. Field research reveals that some signs break away from traditional rectangular regulations by mimicking the silhouette of a camel. As a symbolic icon of the Silk Road, the intervention of the camel's concrete form transforms the signage from a mere information board into an integral part of the landscape. This emphasizes the regional metaphor of the "ship of the desert," thereby completing the deep integration of man-made objects and natural scenery within the morphological dimension. (“Figure7”)



Figure 7 Camel-shaped bionic signage.

4.3.2 Color

The color selection for the official signage in these scenic areas differs from the high-saturation visual impact pursued in commercial zones. Most signs utilize a color palette dominated by earth tones, supplemented by high-contrast identification colors. The browns, ochres, and reddish-browns of the Mogao Caves and Mingsha Mountain cliffs serve as background colors, paired with white text.

This combination of dark backgrounds and light-colored codes maintains visual harmony while ensuring the readability of textual information under the intense outdoor light of Northwest China. In contrast, a small number of directional and warning signs adopt a high-saturation design with vibrant colors and white lettering. This departure from environmental tones is intended to quickly capture tourists' attention to convey instructions. Through precise figure-ground relationship management, these two approaches achieve a dialectical unity of aesthetics and utility in terms of organizational meaning.

4.3.3 Integration

In summary, the linguistic landscape of Dunhuang's two major scenic areas achieves deep visual integration through three methods: material mimicry, morphological bionics, and color isomorphism. This integration is primarily manifested in two aspects. First is the de-industrialized integration of the spatial ecology; by leveraging earth-tone visual mimicry and the regional metaphor of camel forms, managers effectively eliminate the abruptness of modern artifacts within the scenic area. This allows the linguistic landscape to merge deeply with the overall environment, preserving the authenticity of the World Heritage site to a certain extent. Second is the discursive diversion and integration of spatial functions. By contrasting the permanence of official signage with the transience of private signage, a strict functional order is established at the organizational level. This material dimension of organization actually integrates scattered texts into a highly logical and functionally ordered discourse space. It not only optimizes information transmission efficiency under the strong light conditions of the Northwest at a technical level but also achieves an ecological symbiosis between man-made and natural landscapes at a visual level. Consequently, linguistic signage transcends its single function of information delivery, evolving into a core intermediary involved in spatial production. Through the standardization and systematization of material attributes, it achieves a holistic construction of the spatial meaning of Dunhuang.

5. CONCLUSION

This study selects the tourism linguistic landscapes of the Mogao Caves and Mingsha Mountain Crescent Spring in Dunhuang as its

subjects, conducting a systematic analysis through the dimensions of representational, interactional, and organizational meaning within the framework of spatial discourse analysis. The findings indicate that the tourism linguistic landscape serves not only as a tool for intercultural communication but also as a core mechanism for historical imprinting and spatial production. Specifically, in the dimension of representational meaning, the selection of linguistic codes and content on signage constructs a spatial narrative of the "Sense of Community for the Chinese Nation"; in the dimension of interactional meaning, the scenic areas reshape the relationship between managers and tourists by utilizing both vertical and horizontal spatial planes, establishing a corresponding code hierarchy; and in the dimension of organizational meaning, managers achieve an orderly diversion between official and private spaces through the differentiated integration of signage materials and colors to precisely adapt to diverse environments. These three dimensions are highly coupled within Dunhuang's tourism linguistic landscape, collectively facilitating the holistic construction of the site's significance.

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REFERENCES

- [1] Lai M L. The linguistic landscape of Hong Kong after the change of sovereignty[J]. *International Journal of Multilingualism*, 2013, 10(3): 251-272.
- [2] Landry R, Bourhis R Y. Linguistic landscape and ethnolinguistic vitality: An empirical study[J]. *Journal of Language and Social Psychology*, 1997, 16(1): 23-49.
- [3] Yu W Q, Wang T T, Sun Y N. A survey on the Multilingual Landscape of Foreign Resident Communities in International Metropolises — A Case Study of Wangjing, Beijing and Gubei, Shanghai[J]. *Applied Linguistics*, 2016, (1): 36-44.

- [4] Qiu Y. An Investigation on the Linguistic Landscape of Shangrao City[J]. *Applied Linguistics*, 2016, 25(3): 40-49.
- [5] Li L S, Xia N. The linguistic landscape in a multiethnic region: The case of Lijiang's Old Town[J]. *Chinese Journal of Language Policy and Planning*, 2017, 2(2): 35-42.
- [6] Halliday M A K. How Do You Mean?[A]//Davies M, Ravelli L. *Advances in Systemic Linguistics: Recent Theory and Practice*[M]. London: Pinter Publishers, 1992: 20-35.
- [7] Shang J. The philosophy on spaces: The theory of Foucault's heterotopias[J]. *Journal of Tongji University Social Science Section (Social Science Section)*, 2005 16(3): 18-24.
- [8] Yang S P. Heterotopia and Space, Order--Foucault's Heterotopian Thought and Revelation[J]. *Journal of Huazhong University of Science and Technology (Social Science Edition)*, 2023, 37(4): 10-18, 60.
- [9] Dann G M S. *The Language of Tourism: A Sociolinguistic Perspective*[M]. Wallingford: CAB International, 1996.
- [10] Edensor T. Performing tourism, staging tourism: (Re) producing tourist space and practice[J]. *Tourist Studies*, 2001, 1(1): 59-81.
- [11] Coupland N. *Style: Language variation and identity*[M]. Cambridge University Press, 2007.
- [12] XIAO R, PANG C. The Commodification of English Language in Chinese Tourism: A Case Study of the Palace Museum[J]. *3L: Language, Linguistics, Literature*, 2024, 30(1): 120-136.
- [13] Lefebvre H. *The Production of Space*[M]. Oxford: Blackwell, 1991.
- [14] Leeman J, Modan G. Commodified language in Chinatown: A contextualized approach to linguistic landscape 1[J]. *Journal of Sociolinguistics*, 2009, 13(3): 332-362.
- [15] Shang G W. Tourism linguistic landscape study: A macro sociolinguistic perspective[J]. *Journal of Zhejiang International Studies University*, 2018, 18(3): 46-56.
- [16] Backhaus P. *Linguistic Landscapes: A Comparative Study of Urban Multilingualism in Tokyo*[M]. Clevedon: Multilingual Matters, 2006.
- [17] Ruzaitė J. The linguistic landscape of tourism: Multilingual signs in Lithuanian and Polish resorts[J]. *Journal of Estonian and Finno-Ugric Linguistics*, 2017, 8(1): 197-220.
- [18] Zhang Y Y, Zhang B H. Multilingualism in the linguistic landscape of Macau[J]. *Applied Linguistics*, 2016, (1): 45-54.
- [19] Huang X L. Reflections on the three-dimensional construction of Japanese language landscape in Shanghai[J]. *Chinese Journal of Technology Enhanced Foreign Language Education*, 2018, (5): 57-63.
- [20] Yang R H, Sun X. Linguistic landscape in urban historic and cultural districts based on the theory of interaction order: The case of Nanjing[J]. *Technology Enhanced Foreign Language Education*, 2018, (6): 100-105.
- [21] Cenoz J, Gorter D. Linguistic landscape and minority languages[J]. *International Journal of Multilingualism*, 2006, 3(1): 67-80.
- [22] Yan D. Linguistic Landscape of Multilingual Inscriptions in Dunhuang Mogao Caves: Linguistic Evidence of Cultural Integration along the Silk Road[J]. *Forum for Linguistic Studies*, 2025, 7(11): 373-393.
- [23] Xu H G, Ren Y. Tourism impact on the Naxi Dongba linguistic landscape[J]. *Tourism Tribune*, 2015, 30(1): 102-111.
- [24] Fu W L. Study on the Meaning of Multilingual Coexistence in Linguistic Landscape — Based on the survey in Qinghai minority areas[J]. *Journal of Qinghai Normal University(Social Sciences)*, 2020, 42(4): 132-139.
- [25] Wu Y Z, Zhou X E. Service, Culture and Aesthetics: A New Way to Build the Linguistic Landscape of Rural Tourism in Guizhou Ethnic Areas[J]. *Guizhou Ethnic Studies*, 2024, 45(1): 135-141.
- [26] Liu Y L. A Brief Analysis of the Linguistic Landscape on the Campus of Kashi University[J]. *Teaching and Research of National Common Language and Script*, 2024, (1): 58-60.
- [27] Zhang T W, Zhang M L. Exploring the Promotion Mechanism of Linguistic

- Landscape for Autonomous Language Learning from the Perspective of Agency[J]. *Foreign Languages Research*, 2025, 42(5):68-77+113.
- [28] Nie P, Reha M. An investigation of the linguistic landscape of Yi characters in Xichang City[J]. *Applied Linguistics*, 2017, (1): 70-79.
- [29] Dai C H. An Exploration of Translanguaging Practices in Linguistic Landscape Translation — Take Shanghai Tourism Landscape as an Example[J]. *Shanghai Journal of Translators*, 2024, (3):31-35.
- [30] Ravelli L J, McMurtrie R J. *Multimodality in the Built Environment: Spatial Discourse Analysis*[M]. London, New York: Routledge, 2016.
- [31] Halliday M A K. *An Introduction to Functional Grammar*[M]. 2nd ed. London: Arnold, 1994.
- [32] Shang G W. *Theory and Practice of Linguistic Landscape Research*[M]. Beijing: The Commercial Press, 2023.
- [33] Su J. Language power and culture power of bottom-up signs in urban Shanghai[J]. *Chinese Journal of Language Policy and Planning*, 2017, 2(2): 27-34.
- [34] Kress G, van Leeuwen T. *Reading Images: The Grammar of Visual Design*[M]. London: Routledge, 2006.
- [35] Yang F X. Multi - nationalities Contributions to the Ancient Dunhuang Culture[J]. *Journal of Dunhuang Studies*, 2005, (2): 85-99.
- [36] Kress G, van Leeuwen T. *Reading Images: The Grammar of Visual Design*[M]. 3rd ed. London: Routledge, 2021.
- [37] Scollon R, Scollon S W. *Discourses in Place: Language in the Material World*[M]. London: Routledge, 2003.
- [38] Hall E T. *The hidden dimension*[M]. Garden City: Doubleday, 1966.
- [39] Van Leeuwen T. *Introducing Social Semiotics*[M]. London: Routledge, 2005.