



Transmediation and communication of transmedia signs in Sino-French cultural heritage comics: case studies of *Half-Hour Comic: The Forbidden City* and *L'Île Louvre*

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Abstract This article adopts a framework of semiotics and intercultural communication theory, selecting the Chinese comic *Half-Hour Comic: The Forbidden City* and the French comic *L'Île Louvre* as research objects. It focuses on the cross-media communication mechanisms of cultural heritage signs and explores how comics reconstruct Sino-French civilizational signs to activate cultural memory and promote civilizational dialogue. Firstly, the study conducts sign extraction and transduction, analyzing the multimodal transduction strategies of the two comics concerning core cultural signs. It investigates how signs deconstruct power, transform into narratives of struggle, and how classic masterpieces achieve the democratization of art through restructured signs. Next, the study centers on the narrative construction of cultural memory, comparing the differentiated pathways for activating memory in both cultures. It analyzes how “fragmented historical events are reorganized” to strengthen national identity and how the narrative perspective shifts in appreciating artwork shape the consciousness of a European cultural community, revealing the significance of narrative strategies in reconstructing collective memory. Finally, the study conducts research on the communication effectiveness following the transduction of cultural signs. By comparing reader feedback and official support for the two comics in their respective distribution regions, it proposes a reusable “Dual-Loop Model” of the lightweight communication for cultural exchanges with other countries in the context of globalization. This model aims to complete cultural root-seeking through modern deduction of ancient civilizations and to combine the popularization of art with philosophical reflection through the dialogue between tradition and modernity.

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This study reveals the symbolic transliteration strategies of cultural heritage comics and suggests that comics, as a medium for civilizational dialogue, can reconstruct signs to bridge cultural divides, thereby achieving “symbolic empathy” in communication.

Keywords Cultural heritage · Comics · Transmedia signs · Multimodal translation · Cultural communication

Introduction

World Heritage sites are treasures of human history and civilization, carrying significant cultural, historical, and artistic value. In July 2024, “Beijing Central Axis: A Building Ensemble Exhibiting the Ideal Order of the Chinese Capital” was officially inscribed on the World Heritage List, becoming the 59th World Heritage site of China, further highlighting the important position of Chinese civilization in the global cultural heritage system. In the new era, how to continually tell China’s story well and promote the excellent traditional Chinese culture “going global” has become a focal point of academic discussion.

On the occasion of the 60th anniversary of the establishment of diplomatic relations between China and France in 2024, the two countries jointly launched China-France Year of Culture and Tourism. The Palace Museum (Beijing) and the Palace of Versailles jointly hosted the exhibition “The Forbidden City and The Palace of Versailles: Exchanges Between China and France in the 17th and 18th Centuries” at the Wenhua Hall of the Palace Museum. The exhibition, featuring over 200 exquisite artifacts, recounted the century-long history of political and cultural exchanges between China and France, promoting mutual exchange of cultural heritage between the two countries. Some scholars have refocused their attention on the study of cultural heritages in China and France. Cultural heritage researches on the Louvre have primarily focused on its architectural design (Liu, 2010; Yu, 2013), its development mode of cultural and creative products, and the value of its cultural relics (Li, 2021). Researches on the Forbidden City, on the other hand, have focused on heritage protection and development (Shi et al., 2017), inheritance and innovation (Chen, 2017; Du, 2025), cultural heritage management (Wang, 2024), and cultural communication strategies (Tong et al., 2025). Some scholars have also conducted comparative analyses of the Forbidden City and the Louvre, focusing on their architectural forms, spatial structures, and functional positioning (Meng et al., 2018; Xi, 2024), in order to probe the social ideas and cultural differences that underlie them. Currently, studying the two palaces, as symbols of civilization and culture, holds considerable practical significance. The two also share many similarities in the communication of cultural heritage, which are worth exploring.

Comics, with their vivid and accessible characteristics, are playing an increasingly important role in cultural communication worldwide. In particular, in the promotion and inheritance of cultural heritage, comics can not only inject new vitality into traditional culture but also effectively break down language and cultural

barriers, which promotes the international communication of culture. We choose the comics *Half-Hour Comic: The Forbidden City* and *L'île Louvre* as research objects for three reasons: Firstly, both works are themed on World Heritage sites, and the creative subjects are the most iconic cultural museums in the capitals of their respective countries: the Forbidden City and the Louvre. Secondly, the Forbidden City symbolizes Chinese culture and carries hundreds of years of history, while the Louvre, as a world-class museum, is a treasure of Western art and culture. The two buildings have witnessed the accumulation of a century of history and have become dual representatives of tangible and intangible cultural heritage. Thirdly, both comics were jointly released by official institutions and comic artists, giving them authoritative representative significance. *Half-Hour Comic: The Forbidden City* was created by Hunzhi comic team, with former Deputy Director of the Palace Museum Ji Li as chief consultant and nine experts participating in the review. *L'île Louvre* is one of the comic series in the “When the Louvre Meets Comics” (BD Louvre) project officially launched by the Louvre in 2003. It was created by French cartoonist Florent Chavouet and was jointly published in 2015 by the Louvre Museum and the French publisher Futuropolis.

This study adopts a semiotic perspective, focusing on the strong symbolic characteristics displayed by these comics—including both visual image signs and the non-visual cultural codes embedded in their narratives and frames. Such signs not only possess multimodal characteristics in comics, but can also be disseminated in different media, such as animation, micro-films, and cultural and creative products. This mode of semiotic translation, combining image and text, plays an irreplaceable role in cross-media communication. This study incorporates relevant communication theories and employs methods such as document analysis and visual analysis to extract representative cartoon panels and unfolds at three levels: First, the study focuses on the construction mechanisms of signs in comics. Taking three representative categories of cultural signs—artifact signs, character signs, and linguistic signs—from the two comics as entry points, it analyzes how signs in the comics are deconstructed and reassembled through multimodal semiotic systems and the theory of semiotic hierarchies, thereby realizing the democratizing translation of art in the modern era. Next, the study compares how the two comics activate cultural memory through narrative strategies and analyze their significance in reconstructing collective cultural memory. Finally, from an interdisciplinary perspective, the study employs qualitative thematic analysis to evaluate the effectiveness of the two comics in cultural communication and propose a “Dual-Loop Model” of the lightweight communication to explore the two-way communication mechanisms of traditional culture in today’s globalization context.

Through this semiotic study of the two comics, we aim to analyze the mechanisms of construction, translation, and communication of cultural signs in Chinese and French cultural heritage comics, with a view to offering insights for the international promotion of excellent traditional Chinese culture (Fig. 1).

	Half-Hour Comic	L'île Louvre
Theme	The Forbidden City	The Louvre
Mode of Collaboration	Hunzhi comic team+ experts from the Palace Museum	Cartoonists+ the Louvre Museum
Artifact Signs	Architectural forms, spatial layout, decorative elements (immovable objects)	Various artworks (movable objects)
Character Signs	Former inhabitants (e.g., emperors)	Museum visitors
Linguistic Signs	One-way explanation	Two-way dialogue
Narrative Strategies	Popularization, clarification	Interaction, diversification
	Fragmentation, question-oriented	Spatial sequencing
Communication Effectiveness	Able to activate local cultural memory and deep identification, but faces barriers in cross-cultural communication	

Fig. 1 Comparative table of communication strategies

The construction of cultural signs in the Forbidden City and Louvre comics

As multimedia texts, the two comics are not confined to a single mode, but rather present cultural heritage through the synergy of multimodal symbolic systems, including artifact signs, character signs, and linguistic signs. Through the processes of translation and reconstruction, these comics construct distinctive cultural images of the two historic sites, effectively transmitting them to audiences and evoking emotional resonance.

Artifact signs

Both comics select numerous artifacts as sources of cultural signs, that embody historical and cultural significance, reconstruct the characteristics of their referents, and achieve a rapid transmission and emotional connection of traditional cultural signs. *Half-Hour Comic* focuses on immovable artifacts, namely the form, layout, and decorative elements of the Forbidden City, to express cultural heritage. *L'île Louvre* focuses on movable artifacts, namely the various distinctive artworks in the Louvre.

In *Half-Hour Comic*, the author skillfully adopts a visual strategy that combines realism with personification. Layouts, architectural forms, decorative objects, and artifacts of the Forbidden City are selected as cultural signs and presented in

recurring pattern to convey multiple strands of the same cultural connotations and symbolic meaning. The anthropomorphic signs in the comic almost always appear alongside realistic signs, suggesting that they refer to the same referent. The comic opens with an aerial view of the Forbidden City. The architectural ensemble neatly forms a rectangle, symmetrically arranged east–west along the central axis of Meridian Gate and Gate of Divine Prowess, embodying the concepts of “order” and “centrality and rectitude”. This aerial view recurs throughout the text as an indexical sign. For example, when introducing the Three Great Halls, the aerial view reappears, with red dashed boxes and arrows marking their locations, supplemented by textual annotations of their names. Multiple signs—images, marks, and text—are integrated through multimedia decoding, ensuring the transmission of the semiotic chain. The comic also repeatedly features symmetrical signs: the building’s exterior structure and interior furnishings are arranged symmetrically, and palace decorative symbols such as stone lions and cranes appear in pairs. By repeatedly emphasizing “symmetry”, the author reinforces the harmonious resonance of traditional Chinese concepts such as “round heaven and square earth”, “order”, and “ritual system”.

L’île Louvre focuses on the Louvre’s collections, with approximately 80 artifacts from each gallery showcasing the Louvre’s rich history. These cultural signs occupy a prominent position within the pages of the comic. For example, *La Victoire de Samothrace* in the comic utilizes visual contrast, with the figure occupying a small portion of the frame and presented from an upward perspective. This de-emphasizes the figure’s presence while highlighting the artifact, naturally guiding the reader’s reading path and creating a more intense and contrasting effect. The author also varies the level of detail depicted based on the artifacts’ recognition: for lesser-known artifacts, he enriches the signifiers by adding details such as texture, ornamentation, and background; for world-renowned masterpieces, he employs a minimalist and abstract presentation to avoid information overload and highlight the immediate recognition of cultural signs. As shown in the comic, the museum’s treasure, *La Joconde (Mona Lisa)*, occupies only a very small space and is not described in detail, but a few strokes connect the sign and the referent, using numerous character signs to highlight its global fame.

Character signs

Nowadays, the Forbidden City and the Louvre have lost their original residential functions and have evolved into public cultural spaces, possessing the dual attributes of historic architecture and museum. The interaction between people and architectures has therefore generated historically significant innovations, both comics attend to this evolution though represented differently. In their strategies for selecting character signs, the Chinese and French comics diverge: *Half-Hour Comic* focuses on the former users of the Forbidden City and stages historical enactments, whereas *L’île Louvre* devotes greater attention to the present: visitors. This also reveals the different understandings of museums, which carry cultural heritage, between the two countries.

In *Half-Hour Comic*, signs of ancient figures themselves function as carriers of culture, encoding a large amount of cultural information. In character design, the comic juxtaposes faithful reproduction with exaggeration: on the one hand, facial details are retained and costumes are drawn strictly according to historical sources, enhancing recognizability and scholarly rigor. For example, the four emperors illustrated in this comic—Yongle, Jiajing, Wanli, and Kangxi—are rendered as cartoon figures but derive facial features, court dress and headdress from authoritative portraiture. Differences in imperial headdress between the Ming and Qing emperors are likewise made visually legible: Ming emperors wore the yishanguan (winged cap). As recorded in *Mingshi*—Yufu zhi, “In the third year of Yongle, the emperor’s usual court cap was fixed as a black gauze hat with upturned corners, also called the yishanguan (Ye and Bingan 1990).” Qing emperors, by contrast, wore chao-guan (Qing court hat) with a rounded crown and an upturned brim. Readers can thus identify dynastic change via these visual signs. On the other hand, the comic frequently introduces contemporary elements to translate and reconstruct traditional images: ancient figures appear with sunglasses, microphones, bicycles, and even the V-sign. These conventional signs, shared by popular cognition, create visual contrast through cultural displacement, aligning the imagery with contemporary social norms and familiar expectations and rendering ancient authoritative images humorous and approachable (Peirce and Hoopes 1991). The comic’s focus on historical figures also reflects the positioning of museums as carriers deeply rooted in Chinese history and culture. For the Chinese people, history has always been the foundation. Therefore, the center of this comic lies in translating the classical into a modern context to reshape the nation’s history and culture while maintaining a core of transmission.

By contrast, *L’île Louvre* depicts character signs more collectively, linking cultural signs to their sign recipients. The characters themselves are not deliberately used as cultural signs. The artist uses two comic pages to present a crowd of visitors of varied appearances, ages, and dress in the museum’s main hall, with the floor inscribed with multiple languages. The profusion of character and linguistic signs manifests the diversity of visitors’ cultural backgrounds. In the comic, character signs also perform a strongly indexical function—they direct the interpreter’s attention to the object (Zhao 2011). For instance, in one comic page, visitors’ gazes converge on *La Victoire de Samothrace*, guides turn or point toward the statue, both visitors’ and readers’ sightlines are thereby drawn to the cultural sign, silently foregrounding its importance. The conceptual core of *L’île Louvre* is to present the museum as an open cultural sanctuary for the world. The personalized interpretation of cultural signs through characters further inspires readers to construct their own images of the Louvre. This mode of representation focuses on modern visitors, emphasizing the innovative development of culture and its integration with people’s lives. This perspective aligns with France’s policy of “cultural democratization”. While expressing cultural confidence in France, it also implies mutual learning and sharing among civilizations.

Linguistic signs

In comics, linguistic signs perform their initial denotation, which, when combined with visual and other resources, proceeds to a secondary denotation. Through connotation, they interpret and metaphorically extend the deeper cultural implications of the symbols, thereby carrying and transmitting profound cultural meanings (Eco 1978).

In *Half-Hour Comic*, linguistic signs emphasize the verbal exposition of the relationships among cultural signs, their referents, and their interpretants. The comic reconstructs cultural signs in readers' minds by deploying numerous conventional signs, thereby achieving communicative effect. Within his semiotic framework, Umberto Eco argued that semiotic codes regulate message transmission and that new messages may recombine and recode those codes—a theoretical basis for discussing linguistic creativity (ibid.). Sign producers do not merely “replicate” historical signs; rather, they extract historical images from contemporary cultural contexts and recode them to produce semiotic chains that resonate with mass audience. For example, in this comic's reinterpretation of stone lions in the Forbidden City: lions in the Outer Court historically functioned as guardians, depicting with bulging eyes and erect ears. The comic borrows the lyric “eyes bulging like copper bells, ears erecting like antennas” as a transmedia citation to reinforce this sign. By contrast, lions in the Inner Court, associated with withdrawal from royal life, are shown with drooping eyes and ears. The producers recode the semiotic chains of these two images into the conventional sign “smart surveillance”, reorganizing the chain from a modern context while retaining historical connotations and effectively reaching contemporary public discourse.

In *L'île Louvre*, linguistic signs occupy a smaller proportion of the text and primarily activate the semantic construction of cultural signs through spontaneous dialogue among characters. In dialogue, indexical signs and conventional signs jointly operate on visual signs to guide readers in constructing links between cultural signs and their interpretants of history and culture. For instance, visitors in one comic page describe the themes of the paintings as “la guerre (war)”, “la nudité (nudity)” and “Jésus(Jesus)” —three indexical signs that function as interpretants of the iconic signs, implying French art's deep engagement with wartime trauma, religious belief, and Renaissance humanist aesthetics. Through the dialogue, these interpretants turn into a new representational form that exerts an influence back on sign meanings (Zhao 2011). Traditional symbols are ascribed increasingly diversified modern senses. This dialogic mode rejects a single authoritative interpretation. Instead, questions, associates, and satirizes are continuously put forward. The Louvre is gradually deconstructed into a puzzle-like space awaiting exploration and reassembly.

The comic doesn't depend on the materiality of objects to shape signs: any sensorially imagined entity may establish an iconic relation (ibid.). *L'île Louvre* also adopts dynamic visual signs, using borderless text, spatially embedded layout, and other visual strategies. Individualized expression can also be used in the text—font size, weight, and color are adjusted dynamically according to tone and emotion so that language functions like an image and is juxtaposed with pictorial elements.

For example, the author represented an infant's cry with a string of irregular letters arranged along a wavy trajectory. The font size increases progressively, producing a "auditory iconicity" (ibid.). A composite sign combining visual iconicity and onomatopoeic effect was produced, thereby materializing the sound.

Narrative strategies in signs

Through the selection, combination, and interplay of signs, both comics construct and activate the audience's cultural memory and national identity by means of their own narrative approaches. As Jan Assmann has noted, cultural collective memory is not merely a retrospective view of history but also a process of "encoding a sense of commonality" through signs. The underlying symbolic meanings and systems of signs (Assmann 1992) thereby play a crucial role in mobilizing the audience's emotions and in establishing collective identity.

Half-Hour Comic: guided popularization and mass context

Half-Hour Comic leans toward expressivity: its process of denotation prioritizes the sign producer and thus advances a specific interpretation (Zhao 2011). In other words, the comic relies on a largely one-way, language-level activation of cultural memory while taking audience acceptance into account. Multiple types of semiotic systems operate collaboratively to re-symbolize historical events, enabling readers to participate in the reproduction of cultural memory through light, entertaining reading.

Half-Hour Comic adopts a problem-oriented narrative structure that emphasizes causality and interpretation. By repeatedly posing questions such as "How did Beijing strive to be the capital of the nation? (北京是如何奋斗成一国之都的?)" "The secrets of the Forbidden City's layout (紫禁城布局的奥秘)", and so on. The comic directs readers' attention to core signs. These questions are then broken down into multiple sign units: fragmented narrative embeds cultural knowledge into chains of narration, and each single story is organically connected into a coherent cultural space. These questions not only become narrative triggers, but also cater to the fragmented attention of contemporary audiences. The triadic relations among cultural signs, their referents, and their interpretants are thereby clearly transmitted, forming intelligible sign-function chains (Eco 1978). As readers pursue causal explanations, they gradually understand the cultural configurations behind the signs, allowing messages to be conveyed quickly and accurately.

Sign producers (the authors) labor to ensure semantic acceptability and intelligibility (Eco 1978). To fit the mass audience's idiom, *Half-Hour Comic* lowers the threshold of audience, simplifies complex historical episodes, and translates signs from popular registers within historical narratives. The author frequently recontextualizes history into code systems familiar to readers—popular sayings, song lyrics, contemporary internet slang, etc.—thereby supplying traditional signs with new interpretants. This expression closes to daily life and increases readability of history.

For example, the comic mentions that Zhu Di (the Yongle Emperor), insisting on his position and decisively overruling dissenting voices, determined to establish the capital at Beijing. The comic summarizes his image as “the steamroller among emperors”. The literal referent “steamroller” denotes a powerful, ever-advancing machine. When combined metaphorically with the historical identity “emperor”, this new metaphorical signifier communicates Zhu Di’s unstoppable, forceful style of rule. Such metaphorical language reduces cultural distance while subconsciously eliciting readers’ emotional resonance with the characteristics of Chinese emperors.

***L’île Louvre*: untrammeed interaction and diversified interpretation**

L’île Louvre leans toward agency: its process of denotation prioritize the sign recipients and aim to influence the recipient’s actions (Zhao 2011). The construction of cultural memory here relies more heavily on iconic signs, shifting attention to the perception and experience of artworks. Through narrative pathways that stage interactions between characters and artifacts, the comic evokes readers’ sense of identity in European cultural community. This strategy is not a one-way transmission of information. In the text, audiences are not merely decoders but active participants in meaning construction.

L’île Louvre exhibits weak narrativization and mainly unfolds according to spatial sequencing. The work as a whole adopts a first-person, focalized perspective that close to readers’ experience: identification is elicited through the “I” ‘s observations and reactions. The narrator enlarges artifacts and employs low-angle perspective to emphasize their sacrality, thereby constructing the Louvre as an art sanctuary. At the same time, he introduces multiple voices to produce a dialogic narration that presents manifold perspectives on the museum. By, in Barthes’ terms, “demythologizing” (Barthes 1977) the connotations that constitute ideology, the comic redirects the Louvre’s authority toward openness, it is thus remade as a space that is accessible, interactive, and contestable. Readers can produce new semiotic codes from the messages they receive and thereby become re-interpreters of cultural signs.

L’île Louvre focuses its depiction on classical artworks, concentrating on the “pure signs” of artificial production whose utilitarian functions have largely vanished (Zhao 2011) and which now carry deep historical, aesthetic, and symbolic significance. Works such as the *Vénus de Milo* and *Portrait d’Henri IV en Hercule terrassant l’Hydre de Lerne* are rendered with strong pictorial iconicity, while their embedded political backgrounds, aesthetic principles, and cultural values form a complex system of secondary interpretants. Unlike *Half-Hour Comic*, which pairs signs and meanings one-to-one and provides detailed exegesis, *L’île Louvre* foregrounds the capacity for multiple readings of the open-ended signs. Through semantic branching, meaning is generated across polyvocal dialogue. This structure itself functions as a strategy of de-authoritization in cultural narrative, allowing artworks to operate as media for eliciting plural cultural identifications.

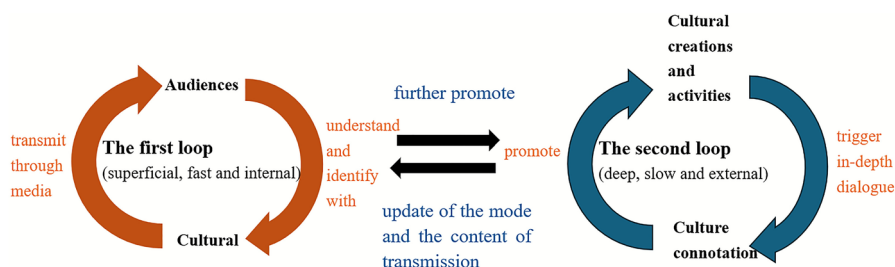


Fig. 2 The “Dual-Loop Model”

Assessment of comics’ communication effectiveness

Effective cultural transmission depends not only on the selection and presentation of signs, but also on constructing participatory decoding pathways for audiences from diverse backgrounds so that cultural memory can be reproduced and shared in a global context. This chapter combines semiotic transmission theory and the preceding analysis of symbolic translation mechanisms with Internet data to perform audience analysis and evaluate communication effectiveness. By integrating the advantages and disadvantages of the two comics, we attempt to propose a “Dual-Loop Model” of the lightweight communication of cultural heritage. Unlike the Circuit of Culture and the Two-step flow model, “lightweight” means reducing complex and academic expressions, extracting their core content and presenting it in concise narrations to enable rapid comprehension. The first loop (fast and internal loop) conveys rich cultural content in an accessible manner to audiences, eliciting cultural understanding and identification, sustaining broad and rapid circulation. It then enters the second loop (deep and external loop), where audiences’ understandings trigger intercultural, in-depth dialogue through cultural activities and inspires new cultural creations. This, in turn, drives the renewal of the first circulation, expands the audience base, and fosters both deeper local cultural understanding and meaningful cross-cultural exchange (Fig. 2).

Assessment of *Half-Hour Comic: The Forbidden City*’s communication effectiveness

Half-Hour Comic has been promoted on official media platforms such as *Beijing Daily* and *Tencent News*. In these media reviews, the discourse first highlights the comic’s readability, emphasizing that it presents the Forbidden City and the traditional culture in a humorous and accessible way—using “witty language and fresh perspectives” to create a “mini encyclopedia of the Forbidden City”¹ that combines cultural education with entertainment. The mention of “experts’ review” also underscores its academic rigor. Moreover, official media platforms summarize the comic’s

¹ <https://xinwen.bjd.com.cn/content/s65371b10e4b0a9019c75a178.html>.

key content from a professional and comprehensive perspective, outlining its rich cultural coverage—from architectural structure, hierarchical systems to ideological aspects. Within the broader context of promoting the excellent traditional Chinese culture, these reviews affirm the comic's value in cultural transmission and its wider social significance.

On *Douban*, *Half-Hour Comic* is recorded as having 2,399 people who have read it and 2,103 ratings, with an average score of approximately 7.6 (5-star: 25.2%; 4-star: 48.3%; 3-star: 24.6%; 2-star: 1.6%; 1-star: 0.3%), and 660 short reviews. User comments are largely positive, frequently describing the comic as “simple and easy to understand”, “light and entertaining”, “informative”, etc..² There are also recommendation posts and generally favorable feedback on *Zhihu*. On *Dangdang* the comic has sold over 20,000 copies and reportedly holds 100% positive reviews.³ Compared with official reviews, the public focuses on personal experience. They value learning and entertainment benefits, which foster a positive identification with traditional Chinese culture. The data indicates strong identification with and interest in the Guochao (国潮, China-chic) signs among domestic audiences. The light-weight narrative successfully lowers cultural barriers, enabling readers to experience the return and internalization of cultural identity through relaxed readings. In other words, this model's first loop appears to be preliminarily functioning in the comic.

However, for cross-cultural audiences, the model reveals two main obstacles: First, because of the threshold for symbolic decoding, it is difficult for cross-cultural audiences to activate cultural identify without annotations or supplementary contexts, such as yin-yang (阴阳) and bagua (八卦), the Chinese ritual and music system, or Internet slang. This causes the elements to undergo a cultural discount in the process of crossing borders, reducing their value and appeal. Second, the translation and media on the communication chain are weak. Although the audience of *Half-Hour Comic* is relatively diverse, it is mostly limited to domestic readers. There are few foreign readers or reviews, which is related to the fact that the comic has not yet been published in foreign languages and its international communication remains limited. Consequently, at the content level, it is necessary to include annotations and cross-cultural comparison strategies to reduce the difficulty of symbol decoding and enhance international accessibility. This approach helps activate and strengthen the second loop, thereby completing and deepening the “Dual-Loop Model”.

Assessment of *L'île Louvre*'s communication effectiveness

L'île Louvre has been promoted mainly through the official website of the Louvre, professional comic websites (*planetebd*, *bdtheque*, etc.), and mainstream French television channels (*TF1*). Official platforms emphasize that this comic is “carnet de voyage”⁴ and that “Le musée du Louvre est devenu île”.⁵ They highlight the readers' experience, focusing on the author's perspective, artistic style, and cultural value.

² <https://book.douban.com/subject/36570537/>.

³ <https://product.dangdang.com/29630075.html>.

⁴ <https://boutique.louvre.fr/fr/product/39651-ile-louvre-edition-2023.html>.

⁵ <https://www.bdtheque.com/series/16046/l-ile-louvre>.

L'île Louvre shows modest sales on *Fnac* with an average rating of 4.5/5.⁶ On *Amazon* it has 11 ratings with an average of 4.3/5 (5-star: 73%; 4-star: 0%; 3-star: 20%; 2-star: 0%; 1-star: 7%). Reviewers frequently use words such as “bel”, “humour”, and “intéressant”, and generally report that the book offers exquisite images and light, entertaining content.⁷ On *Douban*, the French original receives no score and has limited readership; the Chinese translation, however, shows 305 readers and 264 ratings with an average score of 7.3 (5-star: 18.6%; 4-star: 38.6%; 3-star: 38.3%; 2-star: 3.8%; 1-star: 0.8%). Overall, readers’ responses to the comic are generally positive. Short reviews indicate that many readers find the characters’ comments memorable and relatable, describing the comic as “novel” and “fun”, although a number of respondents criticize it as “too thin” or “limited content”.⁸ Compared with official reviews, both emphasize the comic’s originality and entertainment value, focusing on personal experience, with a generally consistent level of cultural recognition. These data suggest that, via translation into other languages, the signs of this comic remain translatable and that the model’s first loop can operate effectively among general readers.

However, the comic’s audience remains highly limited. Most Chinese readers are French learners or enthusiasts of French culture, making it difficult to reach people outside the Francophone community. Foreign readers are mostly those interested in the Louvre or French culture, indicating that *L'île Louvre* has a narrow communication scope and clear limitations. Thus, the model’s second loop is clearly constrained in cross-contextual communication: the comic’s heavy reliance on the context’s puns and metaphors makes it difficult to elicit deep identification among foreign readers who lack cultural background or supporting annotations. This also creates a cultural discount, reducing the audience’s understanding and emotional resonance with the comic. To successfully move *L'île Louvre* from local to international dialogue, annotations and localized creative adaptations should be added in the translations. For example, providing historical background of the artworks, explaining the deeper meanings in character dialogues, or integrating audience-specific cultural elements during creation. It can help lower metaphorical and semantic thresholds, thus facilitating operation of the dual-loop system.

Conclusion

Comics, as a visually engaging and popularizing media, effectively realize the modern translation of traditional cultural signs: they not only reproduce the artistic images of world cultural heritage but also reveal deeper cultural values. *Half-Hour Comic: The Forbidden City* reorganizes traditional cultural signs through fragmented narration to transmit coherent cultural messages to readers, thereby reinforcing local cultural awareness and cultural confidence. *L'île Louvre*, by contrast, constructs a narrative mechanism that moves from individual perception to a sense of cultural community, inviting readers to freely construct interpretive paths and to participate in the

⁶ <https://www.fnac.com/a9025227/Florent-Chavouet-L-ile-Louvre>.

⁷ <https://www.amazon.fr/Lile-Louvre-Florent-Chavouet/dp/2754810102#customerReviews>.

⁸ <https://book.douban.com/subject/33377952/>.

activation of cultural memory, thus realizing diversified exposition of cultural signs. Both generate emotional projection points from the perspectives of images and narratives. In the process of interpreting cultural signs, the audience is guided into a perceptible and resonant emotional mechanism through these specific signs and narrative clues, thus generating so-called “symbolic empathy”. This empathy emphasizes the cross-intervention of emotion and cognition, and is more than just general understanding or appreciation. It is a deeper level of cultural identity and cultural connection.

Under the proposed “Dual-Loop Model” of the lightweight communication, both comics can activate deep identification among domestic audiences and improve communication effectiveness. However, for intercultural audiences, the second loop is often impeded by contextual dependence and barriers of background knowledge. To reduce intercultural comprehension gaps and optimize transmission, producers and translators should use annotations, translation of cultural signs, and localized narratives. In terms of communication, the scope of cultural heritage cooperation can be expanded. Disseminators can use new media platforms and collect audience feedback, promoting multi-field, multi-platform, and multi-format communication to enhance communication effectiveness. In this way, while consolidating domestic audiences’ recognition of cultural signs and strengthening cultural confidence, such strategies also have the potential to overcome geographic and linguistic limits, allowing readers worldwide—within diverse cultural contexts—to rediscover and appreciate the distinctive appeal of excellent traditional Chinese culture. This study proposes this model, hoping to apply it in future research on other emerging media forms and provide further insights for the communication of Chinese culture.

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Author contributions Cheng Bao (First Author): Conceptualization, Data Curation, Formal Analysis, Investigation, Methodology, Software, Visualization, Writing-Review, Methodology, Supervision, Validation. Yuhan Chen (Corresponding Author): Conceptualization, Resources, Validation, Writing-Original Draft and Editing; Data Curation, Investigation.

Data availability We declare that all data and materials as well as software application or custom code support their published claims and comply with field standards.

Declarations

Conflict of interests We declare that we have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper. No funds, grants, or other support was received. All authors certify that they have no affiliations with or involvement in any organization or entity with any financial interest or non-financial interest in the subject matter or materials discussed in this manuscript.

Ethical approval We declare that this manuscript is original, has not been published before and is not currently being considered for publication elsewhere. We confirm that the manuscript has been read and approved by all named authors and that there are no other persons who satisfied the criteria for authorship but are not listed. We further confirm that the order of authors listed in the manuscript has been approved by all of us, as well as by the responsible authorities – tacitly or explicitly – at the institute where the work has been carried out. The publisher will not be held legally responsible should there be any claims for compensation. We understand that the Corresponding Author is the sole contact for the Editorial process. She is responsible for communicating with the other authors about progress, submissions of revisions and final approval of proofs.

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