

A Study on Cross-Media Narrative Design of Ice and Snow Culture Symbols from a Semiotic Perspective

Zhaohong Li

*Department of Visual Communication Design, Harbin Normal University, Harbin, China
zhaohongli1027@163.com*

Abstract. The dissemination of winter sports culture has become an increasingly significant component of the cultural and creative industries. Cross-media narrative design a form of cultural communication that integrates multiple media formats and technological innovations offers novel pathways for the preservation and evolution of winter sports culture. From a semiotic perspective, this paper systematically examines the semantic features, media applications, and cross-cultural communication mechanisms of winter sports cultural symbols. These symbols embody cultural metaphors such as purity, resilience, and challenge, while also exhibiting distinct regional variations. In media such as film and digital games, their symbolic nature facilitates cultural transmission through affective storytelling and immersive experiences. However, cross-cultural adaptation requires careful consideration of cognitive biases and translational challenges arising from divergent interpretations of ice and snow symbolism across regions. Furthermore, the concrete representation of such symbols through immersive and technologically enhanced experiences will be crucial for aligning with future trends in media technology.

Keywords: cross-media narrative, cross-media narrative design, semiotics, design strategies

1. Introduction

The study of cultural symbols has garnered increasing scholarly interest within semiotics, media studies, and cross-cultural communication, particularly under the forces of globalization and digitalization. Existing research has largely addressed symbolic functions in general terms, with limited attention to specific symbol types, which carry distinct region-specific connotations and communicative properties. Current literature further reveals a lack of systematic investigation into the semiotic construction, emotional transmission, and cross-media reproduction of these symbols. This study aims to offer a structured analysis of snow and ice cultural symbols through a semiotic and media-theoretic lens. It examines their dual role as culturally embedded signifiers and vehicles of emotional meaning, and traces their transformation across film, social media, digital games, and virtual platforms. Methodologically, the research employs a theory-informed approach grounded in semiotic analysis and cross-media narrative theory, supplemented by case studies from global media. The significance of this work lies in its potential to advance theoretical frameworks for symbolic communication across media and cultures, while providing practical insights for the design and

dissemination of culturally resonant symbols. It further contributes to intercultural dialogue, cultural policy-making, and the sustainable promotion of winter cultural heritage in a global context.

2. The definition and semiotic structure of snow and ice cultural symbols

2.1. The cultural connotations and characteristics of symbols

Cultural symbols serve as vital mediums for self-expression, social communication, and cultural transmission. They encompass norms, practices, values, and meanings that profoundly shape human cognition and interaction with the environment. The production and interpretation of these meanings are deeply embedded in specific cultural and social contexts. Thus, analyzing the cultural connotations of visual symbols necessitates an examination of their significance within such frameworks [1]. This complex interplay underpins the rich cultural connotations embodied by snow and ice symbols. Far beyond natural entities such as snowflakes or icebergs, these symbols carry profound cultural significances. For instance, across various cultures, they are frequently associated with purity, resilience, and challenge. Yet these connotations are not universal; rather, they emerge through sustained social practices and culturally specific constructions.

In addition to their symbolic richness, snow and ice cultural symbols exhibit distinct regional differentiation. In Northern Europe, for example, snow and ice culture is closely linked to survival, historical traditions, and mythology—such as the Vikings’ reverence for ice and snow forces, or the Inuit’s adaptive wisdom in Arctic environments. These cultural expressions often take the form of functional and visually distinctive representations like igloos, reindeer, and sleds, symbolizing harmony with nature and resilience in harsh conditions. In East Asia, particularly in China and Japan, snow and ice are more commonly associated with aesthetic expression, poetry, and festive traditions. These regional variations arise from the influence of both “cultural attributes” and “non-cultural attributes” on symbolic formation [2]. Investigating such characteristics provides a theoretical foundation for designing culturally resonant ice and snow symbols that retain local distinctiveness while facilitating meaningful engagement across diverse audiences.

2.2. The emotional transmission function of snow and ice cultural symbols

Snow and ice cultural symbols function not only as visual representations but also as vehicles for expressing and transmitting emotion. They evoke cultural identification and foster emotional connections to a region's history and cultural identity. The theory of Visual Grammar, as advanced by Kress and van Leeuwen, offers a robust framework for analyzing how such emotions are conveyed through visual media. This theory posits that images are not simply reflections of reality, but constitute a “visual language” with its own grammatical rules, capable of constructing meaning and expressing emotion much like verbal language.

Snow and ice cultural symbols function not only as visual representations but also as vehicles for expressing and transmitting emotion. This mechanism aligns with what Peirce conceptualized as “emotional resonance” within the framework of the “interpretant.” The theory of Visual Grammar, as advanced by Kress and van Leeuwen, offers a robust framework for analyzing how such emotions are conveyed through visual media. This theory posits that images are not simply reflections of reality, but constitute a “visual language” with its own grammatical rules, capable of constructing meaning and expressing emotion much like verbal language. Within this system, compositional elements such as layout, color, perspective, and framing carry specific semantic loads. The mechanism of emotional resonance in snow and ice cultural symbols operates on this principle.

When individuals encounter visual representations of ice sculptures, ice lanterns, or winter sports, these symbols activate personal experiences, cultural memories, and collective unconsciousness, thereby triggering rich emotional associations [3]. Consequently, snow and ice symbols are frequently linked with emotions and themes such as winter festivity, athleticism, solidarity, and romance.

The emotional transmission of these symbols operates on multiple levels. Firstly, it reflects a collective admiration and reverence for nature. Through artistic interpretation and adaptive engagement with snow and ice, the beauty of the natural world is highlighted and elevated. Secondly, via their specific formal qualities—such as color, texture, and composition—these symbols evoke distinctive emotional responses and connotations. The affective power of these symbols is thereby amplified, endowing them with significant appeal and facilitating effective emotional transmission in a globalized world.

3. The reproduction of snow and ice symbols in cross-media narratives

Henry Jenkins' media theory emphasizes that transmedia storytelling involves the expansion and complementation of content across different platforms, rather than mere replication. Jenkins defines transmedia narrative as a process where elements of a story are systematically dispersed across multiple media channels, with each platform making a distinct and valuable contribution to the overarching narrative world [4]. This model underscores the central roles of media convergence and participatory culture. Within this framework, the reproduction of ice and snow symbols transcends unidirectional dissemination through traditional media. Instead, it evolves into a multifaceted process characterized by multi-platform interactions and diverse perspectives. Through transmedia storytelling, these symbols undergo complex “symbolic reproduction,” thereby enriching their meanings and enhancing the transmission of cultural values.

3.1. Reproduction of snow and ice symbols in mass media

In film and television, snow and ice cultural symbols are frequently employed to construct scenes with distinctive atmospheres—for instance, using “snowy landscapes” to convey coldness and tranquility, or leveraging winter sports to depict characters' resilience. These applications highlight the narrative functions of such symbols. Shi Hang, in a study of the Sino-French co-produced documentary *Powder Snow Adventure*, explored the role of documentary film in cross-cultural communication, emphasizing the capacity of visual narratives to transcend linguistic and cultural barriers and enhance cultural understanding among audiences [5]. Through this documentary, snow and ice culture surpassed cultural and language divides, allowing international viewership to gain insights into China's winter traditions. As key vehicles of mass communication, films and television programs “encode” and “decode” snow and ice cultural symbols via audiovisual language, thereby shaping audience perceptions and emotional responses. The autotelic construction of the ice palace—an act of architectonic self-authorship—marks the pivot from heteronomous constraint to autonomous expression. The palace's prismatic surfaces refract not merely light but the reconfiguration of subjectivity: Eisa's kinetic manipulation of ice becomes a visible praxis of self-legislation. Consequently, ice and snow are reinscribed from indices of prohibition to emblems of female agency and counter-hegemonic resistance against normative gender ascription [6].

In game design, snow and ice symbols operate not only as environmental features but are also often integrated into game mechanics, directly influencing player experiences and progression. Elements such as snowfall, ice-covered terrain, and low-temperature effects can dictate character

movement, weather dynamics, and narrative development. Consequently, the design of these symbols must balance aesthetic appeal with functional utility. In *The Legend of Zelda: Breath of the Wild*, the snow mountain environment functions not only as a visually striking setting but as a sophisticated ludonarrative construct that merges cultural symbolism with interactive gameplay. Through a semiotic lens, indexical of physiological danger and symbolic of challenge and purity, notions deeply embedded in numerous cultural traditions. Players must engage with insulated clothing, cold-weather consumables, and ice-based mechanics, which together form a procedural rhetoric that reinforces values of adaptation, preparation, and resilience.

3.2. The spread of ice and snow symbols on social media and virtual platforms

The proliferation of digital and social media platforms has markedly accelerated the speed and expanded the reach of ice and snow cultural symbols within virtual spaces. In this context, the reproduction of such symbols has evolved from a one-way transmission via traditional mass media into a dynamic process characterized by multi-platform interaction and diverse perspectives. This shift not only imbues ice and snow symbols with new meanings but also facilitates their rapid global dissemination, shaping audiences' cultural identities and emotional expressions. Moreover, interactions within virtual communities play a significant role in shaping cultural memory, identity construction, and symbolic reproduction [7]. Communities formed by winter sports enthusiasts and fans of winter art on social media platforms serve as spaces for sharing experiences and exchanging ideas, collectively reinforcing a shared cultural identity around winter sports symbols. Such interactive engagement not only accelerates the spread of winter sports culture but also enhances its vitality and popular appeal. Simultaneously, brands and tourism authorities leverage social media for visual storytelling and promotional campaigns, further linking ice and snow symbols with consumer behavior and commercial activity. This commodified reproduction extends the influence and penetration of winter cultural symbols, illustrating a user-driven model that fosters both diversity and openness in their meanings.

3.3. Cross-media symbol chain of snow and ice cultural symbols

The cross-media symbol chain is central to the reproduction of snow and ice symbols, reflecting how different media platforms collaborate through multidimensional narratives to construct a rich and coherent symbolic world. Taking *Frozen* as an example, the representation of Elsa's ice magic is first established in the film through audiovisual means, forming the core symbolic prototype. This imagery is subsequently extended and reworked on short-form video platforms via movie clips, fan-made content, and digital effects, aligning with the fragmented and fast-paced nature of these platforms.

As Elsa's image is adapted into collectible figures, the symbol transitions from virtual representation to physical commodity, introducing material attributes and strengthening emotional engagement. Eventually, snow and ice symbols enter the realm of block chain-based digital collectibles, such as Non-Fungible Tokens (NFTs), where unique digital ownership confers scarcity and new forms of value. This expansion stimulates the development of related games, toys, books, and theme parks, with each new medium contributing additional layers of meaning and experience that enhance both the commercial appeal and cultural impact of the original symbols.

Within this chain, film serves as the narrative anchor, providing the symbolic foundation; short video platforms facilitate diffusion and reinterpretation through UGC; physical collectibles materialize the virtual symbols; and NFTs introduce technological and economic dimensions.

Throughout this process, the meaning and value of snow and ice symbols are continuously reproduced and enriched. Each medial transformation injects new vitality into the symbols and fosters novel models of user participation and cultural consumption [8].

4. Cross-cultural communication and integration of ice and snow cultural symbols

4.1. Challenges in cross-cultural symbol transformation

The cross-cultural communication of symbolic content involves considerable challenges, particularly in how ice and snow symbols are understood and interpreted across diverse cultural contexts. A primary issue is the “cultural discount” effect, wherein cultural products from a source culture lose appeal and value when introduced into foreign markets due to cultural disparities [9]. Certain traditional customs or mythological narratives tied to ice and snow may carry intrinsic cultural codes and emotional connotations that are difficult for external audiences to fully comprehend or embrace. For instance, while snow and ice may symbolize hope purity, and renewal in some cultures, in others—especially those with long histories of harsh winters and resource scarcity—they may connote isolation hardship, or even death.

4.2. Symbolic fusion in a globalized context

These cannot be adequately conveyed through direct translation alone, but instead demand deeper cultural interpretation and contextual reconstruction. Amid accelerating globalization, an effective strategy for symbolic integration is “localization”—adapting global cultural or brand elements to align with the specificities of the target market. Furthermore, globalization has intensified the blending and exchange of cultural symbols, giving rise to “culture mixing” and facilitating “symbolic hybridity.” Successful fusion allows ice and snow culture to preserve its unique identity while gaining acceptance among global audiences [10]. This is particularly evident in large-scale international events such as the Beijing Winter Olympics. As a global spectacle, the Olympics identified common ground across diverse cultures and reinterpreted winter sports symbols accordingly. In this context, ice and snow symbols evolve beyond their culture-specific origins. Through international events and media dissemination, they acquire global significance, becoming “universal symbols” capable of bridging cultural divides [11].

As previously noted, the tension between globalization and localization lies at the heart of cultural integration. Overemphasizing local traits may result in “cultural inwardness” or communication barriers [12]. Achieving this balance necessitates innovation in both “intercultural competence” and “symbolic systems”. Consider Harbin, known as the “Ice City,” which serves as a leading representative of Chinese ice and snow culture. The goal of promoting and translating its winter tourism culture is to enhance foreign visitors’ acceptance and appreciation, thereby strengthening cultural soft power. Attaining this equilibrium requires a nuanced understanding of “value orientation differences” and “non-verbal communication” across cultures. The affirmation of diverse cultural identities and tourists’ search for belonging can both be interpreted as responses to global cultural dynamics. Hence, cross-media narrative design can serve as an effective mechanism for promoting ice and snow cultural symbols while maintaining a dynamic balance between local distinctiveness and global relevance [13].

5. Future development trends of ice and snow cultural symbols

Technological advancement is a pivotal driver in the evolution of ice and snow as cultural symbols, particularly through digitalization, intelligent systems, and immersive experiences. Technological innovation is poised to fundamentally transform how these symbols are expressed and engaged. For instance, VR and AR technologies can transition ice and snow symbols from two-dimensional representations into three-dimensional interactive spaces, shifting the user role from passive observer to active participant. Furthermore, emerging technologies such as the metaverse, artificial intelligence (AI), and the Internet of Things (IoT) are expected to play integral roles in the creation, experience, and management of ice and snow cultural symbols.

Global climate change poses an increasingly severe threat to snow and ice environments and their associated cultural heritage, profoundly impacting the preservation and evolution of snow and ice cultural symbols and potentially leading to a “symbolic crisis”. The evolving expectations of younger generations act as an internal catalyst for the innovation of snow and ice cultural symbols. This demographic, having grown up as digital natives, exhibits strong preferences for interactivity, personalization, social connectivity, and enriched cultural experiences. Consequently, traditional one-way dissemination models are increasingly inadequate to capture this group. Instead, snow and ice cultural symbols must be propagated through cross-media and cross-cultural channels to maintain relevance. This demand for novelty is driving the diversification of winter sports symbols in terms of content, form, and dissemination strategies, enhancing both inclusivity and sustainability.

6. Conclusion

In summary, as a multifaceted cultural phenomenon, ice and snow cultural symbols encompass complex processes of meaning construction across diverse cultural contexts. Through cross-media narrative strategies, these symbols are continuously reproduced and disseminated, expanding both their narrative scope and cultural influence. This dynamic traces the evolution of ice and snow symbols—from natural entities to cultural signs, and further into mediated products—ultimately shaping audience perceptions and emotions. Nonetheless, this study acknowledges certain limitations. Current research remains relatively limited in its exploration of the specificity and depth of ice and snow cultural symbols, with some arguments still situated at a macro level. Future investigations would benefit from quantitative approaches to examine regional variations, employing artificial intelligence and big data analytics to elucidate the dissemination patterns, global pathways, audience reception, and emotional responses related to ice and snow symbols. Such methodologies could offer data-informed support for the targeted communication and innovative design of winter cultural symbols.

References

- [1] Hodel, L., le Polain de Waroux, Y. & Garrett, R.D. Characterizing culture's influence in land systems. *Nat Sustain* 7, 973–982 (2024). <https://doi.org/10.1038/s41893-024-01381-z>
- [2] Su, C., Peng, Y., Huang, S. et al. A Metaphor Comprehension Method Based on Culture-Related Hierarchical Semantic Model. *Neural Process Lett* 51, 2807–2826 (2020). <https://doi.org/10.1007/s11063-020-10227-6>
- [3] Varpio, L., Grassau, P., & Hall, P. (2016). Looking and listening for learning in arts- and humanities-based creations. *Medical Education*, 51(2), 136–145. <https://doi.org/10.1111/medu.13125>
- [4] Jenkins, H. (2010). Transmedia Storytelling and Entertainment: An annotated syllabus. *Continuum*, 24(6), 943–958. <https://doi.org/10.1080/10304312.2010.510599>
- [5] Shi, H.(2023). The phenomenon of nonverbal symbol communication in cross-cultural communication [J]. *Cultural Industry*, (25), 103–105.

- [6] Stehn, M. (2018). A Brilliant but Frosty Solution: Frozen® as an Allegory for the Central Relational Paradox. *Journal of Creativity in Mental Health*, 13(2), 254–261. <https://doi.org/10.1080/15401383.2018.1426509>
- [7] Sarıkaya, T. (2023). THE EFFECTS OF INTERACTIONS IN VIRTUAL COMMUNITIES ON SOCIAL MEDIA IN THE SHAPING AND REPRODUCING OF CULTURAL MEMORY, NEIGHBORHOOD IDENTITY, AND CULTURE. *Communication Papers*, 12(24). https://doi.org/10.33115/udg_bib/cp.v12i24.22887
- [8] Jia, A. (2022). [Retracted] Cross-Media Narrative and Emotional Identity Mechanism of School Culture in Media Integration Environment. *Journal of Environmental and Public Health*, 2022(1).
- [9] Zhou, D. (2025). Cultural Narrative, Symbol System and Cross-Cultural Communication: the Globalization Path of the Chinese-Style Animation "Nezha: The Devil Boy Conquers the Dragon King". *Economic Society and Humanities*.
- [10] Ye, Z. (2024). Cross-Cultural Communication and Diversity in Contemporary Art. *Journal of Social Science and Cultural Development*, 1(2). <https://doi.org/10.70767/jsscd.v1i2.363>
- [11] Zhou, T., & Chen, Q. (2024). A Study on the Communication Modes and Characteristics of Cultural Innovation Symbols Under the Meta-Media Context. *Art and Society*, 3(4), 76–81. <https://doi.org/10.56397/as.2024.08.09>
- [12] Parusheva, T. (2023). Cultural identity and sustainable cultural tourism in the context of local and global. *Scientific Works*, LXIV(2), 23–29. <https://doi.org/10.22620/sciworks.2022.02.002>
- [13] Radwan, M. Effect of social media usage on the cultural identity of rural people: a case study of Bamha village, Egypt. *Humanit Soc Sci Commun* 9, 248 (2022). <https://doi.org/10.1057/s41599-022-01268-4>