

CROSS-MEDIA TRANSLATION OF CHINESE OPERA CULTURAL GENES IN POPULAR MUSIC

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Abstract: In an era shaped by digital transformation and renewed engagement with traditional culture, the question of how Chinese opera continues to function within contemporary media environments has gained increasing relevance. This study examines the cross-media translation of Chinese opera cultural elements in popular music, focusing on how these elements are adapted and restructured within modern musical forms. Drawing on a combination of literature review, audience survey, and multi-platform case observation, the research analyzes the evolving role of Chinese opera in popular music contexts. The findings indicate that the integration of elements follows a gradual trajectory: from symbolic citation to structural incorporation, and ultimately to technologically mediated recombination. At the same time, this process is shaped by platform-specific conditions. Certain operatic genres are more frequently represented, audience expectations of integration vary across cultural backgrounds, and complex operatic structures are often simplified within short-form, high-frequency media formats. Rather than framing these changes as a process of loss or preservation, this study interprets them as adaptive transformations driven by the interaction of artistic form, media technology, and cultural context. In doing so, it provides a clearer account of how Chinese opera continues to evolve and maintain relevance within contemporary media ecosystems.

Keywords: Chinese opera cultural genes;
Cross-media translation; Structural integration;
Popular music; Platform circulation

1. INTRODUCTION

In a context where digital technologies are continuously reshaping modes of cultural production, traditional Chinese opera no longer exists solely within the theatrical stage but has gradually entered the contemporary sound world constituted by recording studios, digital platforms, and mobile media. Understanding the formal transformation of opera within this transition concerns not only the expansion of its communicative reach, but also the reorganization of artistic form itself. The integration of opera and popular music represents one of the most representative practices in this process. As a cross-disciplinary creative form, opera-infused popular music both sustains the formal logic of traditional vocal systems such as Peking Opera and Kunqu Opera, and incorporates expressive strategies from popular music and digital production technologies, thereby forming a new cultural landscape within today's music market. Changes in policy and market environments have provided a practical foundation for this integration. In 2015, the State Council of China issued the *Several Policies on Supporting the Inheritance and Development of Traditional Opera*, explicitly encouraging innovative expressions of operatic elements across multiple media forms. According to the *2021 China Digital Music Annual Report* (Figure 1), Chinese-style popular music with strong cultural characteristics accounted for 26.2% of the market share in 2020. This trend suggests that traditional musical elements possess sustained potential for transformation and dissemination under contemporary media conditions, making the presentation of Chinese opera cultural genes in popular music a topic worthy of further examination within the fields of applied arts and creative industries.

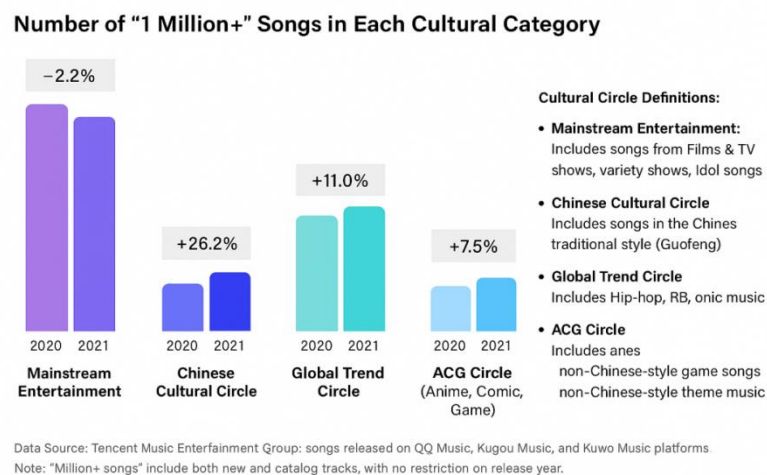


Figure 1. Statistics on Newly Released and Million-Stream Songs in 2021
(**Source:** 2021 China Digital Music Annual Report)

Against the backdrop of an expanding creative industry system, cross-media practices of traditional arts reflect not only the reorganization of creativity and artistic skill, but also the ways in which cultural resources acquire renewed expressive space within market and platform logics. The incorporation of Chinese opera cultural genes into popular music is therefore not merely a stylistic fusion, but a process of structural reconfiguration. It concerns how traditional art maintains its formal logic within modern production systems while adapting to the temporal rhythms and modes of reception shaped by digital technologies and platform-based dissemination.

However, when operatic elements enter digital music production and platform circulation systems, their structural relations and expressive contexts do not simply continue unchanged. Different stages of creative development, varying media conditions, and diverse audience understandings all influence the degree of structural participation of operatic elements within musical works. Existing studies have primarily focused on modes of stylistic integration or broader cultural meanings, yet systematic analysis of how internal structural relations of opera shift during cross-media migration remains limited. Moreover, distinctions between different developmental stages are often insufficiently articulated. In a contemporary context characterized by intensive technological intervention, closer empirical observation is needed to understand how operatic elements are reorganized across distinct dissemination scenarios.

Accordingly, this article takes the “cross-media translation of Chinese opera cultural genes in popular music” as its central theme. Through a combination of literature review, questionnaire survey, and multi-platform case observation, it seeks to trace the evolving structural roles of operatic elements within popular music contexts. The study focuses on the reorganization of operatic form in cross-media circulation and examines how these transformations generate new interactions among creative practice, audience perception, and platform environments. The core research question is therefore: How do Chinese opera cultural genes undergo structural transformation in the process of cross-media translation within popular music, and how are these transformations shaped by modes of creative practice, audience cognition, and media-platform conditions.

By integrating stage-based analysis with empirical evidence, this study aims to provide a structurally informed and media-conscious analytical framework for understanding the continued expression of traditional opera within contemporary media ecologies. At the same time, it responds to ongoing discussions in the fields of applied and creative arts concerning cultural innovation, creative practice mechanisms, and industrial adaptation, offering practical insights into strategies for sustaining traditional arts within

digital creative environments.

2. BACKGROUND

As operatic elements have gradually entered the context of popular music, existing scholarship has developed along three relatively distinct lines of inquiry. Together, these strands provide a foundational understanding of the interaction between traditional opera and contemporary popular music.

First, at the level of compositional technique and integration strategies, research has primarily focused on how operatic elements are embedded within musical structures. Huang (2022) systematically examines the technical pathways through which operatic elements are transformed within popular music, analyzing four dimensions: lyrical expression, vocal style, *qupai* (fixed melodic patterns), and instrumentation. He argues that formal innovation not only reshapes stylistic presentation but also reconfigures cultural meaning. Studies in this vein emphasize creative mechanisms and technical operations, demonstrating how operatic materials enter the popular music system through structural modification and vocal recontextualization.

Second, at the level of dissemination and audience reception, research has increasingly shifted toward meaning-making processes within digital platform environments. Xu (2024), drawing on discussions from the Zhihu platform regarding “opera-style singing” in popular music, analyzes how audience discourse participates in the reproduction of operatic meaning and explores whether such hybrid musical forms can function as effective vehicles for the transmission of traditional opera. This line of inquiry highlights that the reception of operatic elements in new media contexts is shaped not only by compositional structure but also by platform environments and discursive frameworks. Media conditions thus play a significant role in shaping how operatic fusion practices are understood.

Third, at the level of specific works and cultural expression, some scholars have adopted case-study approaches to explore stylistic transformation in contemporary popular music. Dai (2024), using songs performed by Hetu as examples, analyzes how “ancient-style” elements are incorporated into popular music and discusses the aesthetic effects produced by the juxtaposition of traditional vocal techniques and modern melodic structures. Similarly, Liu (2021) examines the use of Peking Opera vocal style in songs such as *Chiling* and *Tanchuang*, analyzing how operatic timbre functions symbolically within popular music and influences contemporary modes of transmission. These studies focus primarily on aesthetic interpretation and cultural expression at the level of individual works.

Taken together, existing research has offered multi-layered perspectives on the interaction between opera and popular music from technical, communicative, and case-based viewpoints. However, from a structural perspective, two limitations remain evident. First, operatic elements are often treated as stylistic resources subject to quotation or adaptation, while relatively limited attention is given to how their internal structural relations shift during cross-media migration. Second, discussions frequently center on isolated cases or fusion phenomena without systematically distinguishing between different developmental stages, making it difficult to trace the broader trajectory of transformation.

To address the structural limitations identified in previous scholarship, this study introduces two key analytical concepts, “opera cultural gene”, “cross-media transposition”, and integrates them within a unified theoretical framework. Together, these concepts provide a structure-oriented lens through which the transformation of Chinese opera elements in popular music can be more precisely examined.

In this study, the term “opera cultural gene” is not intended as a direct borrowing from biological discourse, but rather as an operational analytical construct. Drawing on discussions of cultural units and memetic transmission in cultural communication theory (Dawkins, 1976), the concept is used here in a limited and metaphorical sense to emphasize identifiable and reproducible structural features within traditional artistic forms. Specifically, Chinese opera cultural genes refer to the fundamental expressive units that shape operatic form, including melodic contour patterns in vocal lines, modal-rhythmic organization within *banqiang* systems, and the timbral and intonational structuring of spoken-sung delivery. These elements do not function independently; rather, they form relatively stable structural relationships through long-term theatrical practice, collectively supporting narrative progression and emotional articulation. In this sense, the notion of “gene” highlights internal structural organization rather than surface-level stylistic markers.

Correspondingly, “cross-media transposition” describes the process through which these structural expressive units are reconfigured as they migrate across media systems. This concept resonates with intermediality research, which emphasizes the transformation and reorganization of expressive forms between media environments (Rajewsky, 2005), and may also be understood in relation to Jakobson’s (1959) notion of intersemiotic translation, which addresses shifts across sign systems. However, rather than equating transposition with stylistic borrowing or aesthetic collage, this study foregrounds structural reconfiguration as its central concern. When Chinese opera cultural genes enter recording technologies and digital platform-based Chinese opera elements distribution systems, their temporal unfolding, sonic layering, and

reception conditions are inevitably altered. Under these new technological and production logics, are not transferred as intact structural wholes; instead, they are recombined, compressed, or intensified within new media frameworks. Cross-media transposition, therefore, is best understood as a process of structural reorganization shaped by changing media conditions.

From this perspective, cross-media transposition does not signify the simple preservation or replacement of tradition, but rather an ongoing negotiation in which structural relationships are continuously adjusted across media contexts. By conceptualizing “gene” as a structural unit and “transposition” as the reconfiguration of structural relations, this study seeks to trace the evolving trajectory of Chinese opera elements within popular music and to examine how media conditions participate in shaping these transformations.

Building upon this theoretical foundation, the study further proposes a stage-based analytical framework. It argues that the cross-media transposition of Chinese opera cultural genes does not unfold uniformly but rather progresses from “symbolic assemblage” to “ritual integration,” and subsequently to “technological interaction.” This phased model enables a clearer articulation of structural shifts over time and provides a more structurally grounded explanation for the tensions and challenges that emerge across different media environments.

3. METHODOLOGY, VARIABLES AND DATA

Following the clarification of core concepts and the construction of the theoretical framework in the preceding sections, this study outlines the research methods, data sources, and analytical procedures employed in the study. To enhance methodological transparency and reproducibility, particular attention is given to clarifying the sample size, data collection procedures, case selection criteria, and analytical methods. Centered on the question of how Chinese opera cultural genes undergo cross-media translation within popular music, the research adopts three complementary approaches: literature analysis, questionnaire survey, and multi-platform case study. These methods correspond respectively to the identification of historical development patterns, the verification of audience cognitive structures, and the observation of structural manifestations within media practice. As illustrated in Figure 2, these three approaches are organized as a complementary analytical framework, moving from historical mapping to audience-level empirical validation and then to structural observation in media contexts.

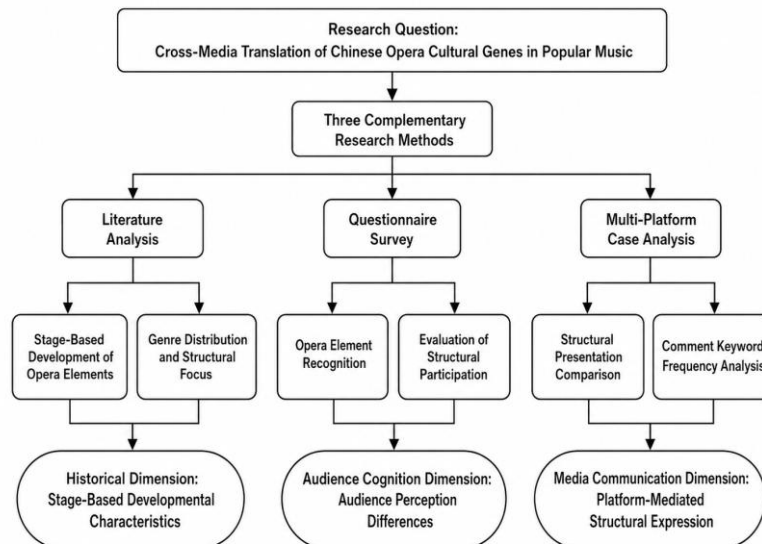


Figure 2. Research Process Design Framework

(Source: Authors)

At the historical level, a large-scale literature analysis was conducted to trace the developmental trajectory of Chinese opera elements in cross-media contexts. The search was carried out across CNKI, Wanfang, Chaoxing, and Web of Science, using the keywords “Chinese opera,” “cross-media translation,” and “opera music,” covering the period from 1990 to 2025. The initial retrieval yielded 586 publications, of which 417 valid sources were retained after screening for thematic relevance and removing duplicates. These sources were used as the analytical corpus rather than as direct references. Content analysis was employed to classify research themes, methodological approaches, and structural focuses, while time-series analysis was applied to identify stage-based evolution patterns.

Building upon the identification of historical stages, a questionnaire survey was conducted to examine audience cognition regarding the integration of Chinese opera elements in popular music. A total of 200 valid responses ($n = 200$) were collected. Participants were drawn from Southeast Asian and Western cultural groups, covering individuals aged 18–45 with diverse educational backgrounds. The questionnaire was distributed online between March and April 2025 through academic mailing lists, social media platforms, and university networks, with voluntary and anonymous participation. The survey instrument consisted of three dimensions: recognition of Chinese opera elements, evaluation criteria of structural participation of Chinese opera elements, and perception of structural participation. A five-point Likert scale was used for structured items, complemented by optional open-ended responses. The data were analyzed using descriptive statistics and intergroup comparison methods to identify differences in recognition, evaluation criteria, and

cognitive thresholds of structural integration.

At the level of practice, the study further conducted multi-platform case analysis to observe how Chinese opera cultural genes are structurally presented across different media environments. Case selection followed four criteria: representativeness of Chinese opera integration, platform diversity (music streaming, television audiovisual, and short-video platforms), availability of publicly accessible data, and temporal relevance within the period 2015–2025. Data were collected from publicly available sources up to May 15, 2025, including view counts, comment volumes, interaction frequency, and release information, without accessing any private or backend data. In addition, comment datasets were manually compiled from platform comment sections. Analytical methods included keyword frequency analysis and comparative structural analysis, with manual verification of keyword context to reduce semantic bias. Structural analysis focused on the degree of preservation or fragmentation of operatic elements, their participation in melodic and rhythmic organization, the presence of technological processing, and their level of integration within overall musical structures.

Overall, the three methodological approaches are integrated within a unified research design. Literature analysis establishes the historical and structural foundation, the questionnaire survey verifies audience-level cognitive responses, and case studies reveal how technological and platform conditions shape structural expression in practice. This combination constitutes a form of methodological triangulation, enhancing the robustness and credibility of the findings, as conceptually summarized in Figure 2. Importantly, this study adopts a non-evaluative analytical stance, treating structural change as an observable phenomenon rather than a value-based judgment.

4. EMPIRICAL RESULTS AND ANALYSIS

4.1 Literature Analysis: Data-Based Identification of Developmental Stages

Building on the dataset of 417 valid publications (1990–2023), the content analysis reveals not only an increase in research volume over time, but more importantly, a shift in how operatic elements are conceptualized within popular music. Early studies predominantly focused on terms such as “borrowing,” “fusion,” and “localization,” whereas later research increasingly emphasizes “structure” and “systematic integration.”

This shift suggests that operatic elements are no longer understood merely as stylistic resources, but as components that can participate in the internal organization of musical systems. From the perspective of Linda Hutcheon, such a transition reflects a movement from adaptation as surface-level recontextualization toward adaptation as

structural reconfiguration. In this sense, cross-media translation involves not only the transfer of cultural symbols but also the reorganization of structural relationships. As summarized in Table 1, the evolution of Chinese opera elements in popular music can be empirically divided into four stages, each characterized by a distinct degree of structural participation.

Table 1: Evolution of the Integration of Opera Elements in opular Music (1980s–Present)
(Source: Authors)

Stage	Period	Dominant Features	Structural Characteristics	Representative Examples
Symbolic Usage Stage	1980s–1990s	Emphasis on stylistic borrowing and cultural localization	Chinese opera elements appear as sampled fragments or timbral imitation; function mainly as stylistic markers without structural integration	<i>Farewell My Concubine</i> soundtrack (1993); Xie Jin, <i>Talking-Singing of Painted Faces</i> (1996)
Surface Integration Stage	2000–Early 2010s	Increased attention to integration methods and hybrid styles	Juxtaposition of operatic vocals and pop melodies; emphasis on stylistic identity while pop structure remains dominant	<i>Wang Leehom, Heroes of Earth</i> (2005); Jay Chou, <i>Fearless</i> (2006)
Deep Structural Integration Stage	Mid 2010s–2019s	Stronger emphasis on structural integration and system design	Systematic incorporation of operatic singing style, narrative elements, and instrumentation into overall musical structure	<i>Thousand Threads Opera</i> (2015); Luo Tianyi, <i>Power Over the World</i> (2015); TV program <i>Chinese Opera Conference</i> (2018)
Technological Reconfiguration Stage	2020s–Present	Expansion into digital media and platform-based dissemination	Chinese opera elements reconfigured across games, virtual idols, AI music, and digital media; restructuring beyond stylistic boundaries	TikTok online concert <i>National Rhyme Tides</i> (2020); <i>Goddess Splits the View from Genshin Impact</i> (2022, 100M+ global views)
Symbolic Usage Stage	1980s–1990s	Emphasis on stylistic borrowing and cultural localization	Chinese opera elements appear as sampled fragments or timbral imitation; function mainly as stylistic markers without structural integration	<i>Farewell My Concubine</i> soundtrack (1993); Xie Jin, <i>Talking-Singing of Painted Faces</i> (1996)

From the Symbolic Usage Stage (1980s–1990s), operatic elements primarily functioned as symbolic markers. Representative works such as *Talking-Singing of Painted Faces* (1996) demonstrate that these elements were incorporated mainly as melodic fragments or timbral imitations, without participating in the overall musical structure. This indicates that cross-media translation at this stage operated at the level of representation rather than transformation, corresponding to a limited form of adaptation in which structural relations remained largely unchanged.

From the early 2000s to the early 2010s, operatic elements began to appear more frequently within popular music compositions. Works such as Jay Chou's *Fearless* (2006) and Wang Leehom's *Heroes of Earth* (2005) illustrate a growing tendency toward integration. However, structural analysis shows that these elements remained subordinate to dominant pop frameworks. This suggests that cross-media translation at this stage represents a transitional condition, where integration occurs but does not yet result in systemic structural reorganization.

After 2015, both academic discourse and creative practice show a marked increase in attention to structural integration. In works such as *Thousand Threads Opera* (2015) and Luo Tianyi's *Power Over the World* (2015), operatic melodic and rhythmic systems begin to participate more actively in the overall musical organization. This indicates a shift toward deeper structural integration, where operatic elements are no longer supplementary but contribute to the compositional logic of the work. From an adaptation perspective, this reflects a more advanced stage in which the structural principles of the source material are rearticulated within a new media context.

Since the 2020s, the expansion of digital media and platform-based dissemination has introduced new forms of structural transformation. Cases such as *Genshin Impact* (2022) demonstrate that operatic elements are increasingly fragmented and recombined across different media environments. Rather than reinforcing structural continuity, technological mediation often redistributes these elements across platforms and formats. This suggests that cross-media translation in digital contexts is characterized not by linear enhancement, but by adaptive restructuring shaped by media conditions.

Taken together, the patterns identified in the literature analysis indicate that the structural role of operatic elements evolves from symbolic usage to partial integration, and ultimately to complex forms of structural reconfiguration. This progression provides empirical support for understanding cross-media translation as a dynamic and stage-based process.

4.2 Questionnaire Survey: Empirical Evidence of Audience Cognitive Differences

The questionnaire survey results (n = 200) provide quantitative insight into how audiences from different cultural backgrounds perceive Chinese opera elements in popular music. As shown in Figure 3, significant differences emerge between Southeast Asian and Western respondents across three dimensions: identification, acceptance, and cultural engagement.

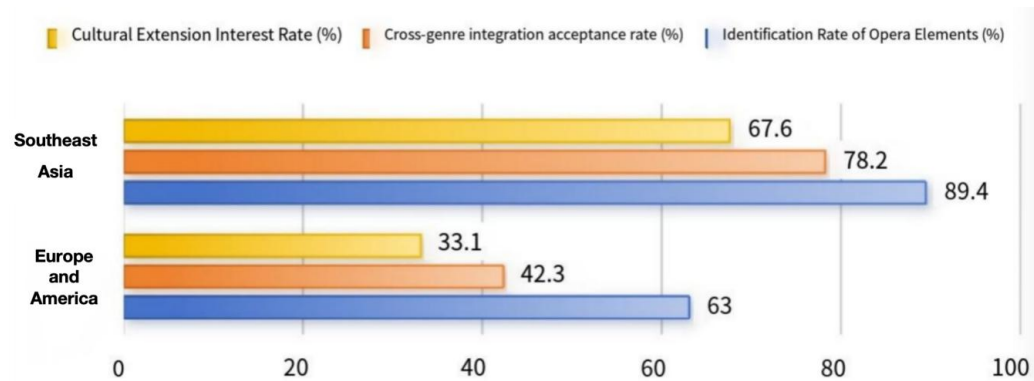


Figure 3. Comparison of Cross-Cultural Audiences' Understanding and Acceptance of Elements of Chinese Opera (n = 200)

(Source: Authors)

In terms, Southeast Asian respondents demonstrate a higher recognition rate (89.4%) compared to 63% among respondents from Europe and America. This difference suggests that cultural familiarity enhances the ability to identify structural features of operatic elements within musical works. In contrast, lower recognition rates among Western audiences indicate a reliance on more perceptual or surface-level cues.

A similar pattern is observed in the evaluation of cross-genre integration. The acceptance rate reaches 78.2% among Southeast Asian respondents, compared to 42.3% among Western respondents. This suggests that audiences with greater cultural proximity are more receptive to hybrid musical forms, while those with less exposure may find such integration less accessible. Furthermore, cultural extension interest follows the same trend, with 67.6% of Southeast Asian respondents expressing willingness to further engage with Chinese opera, compared to 33.1% among Western respondents.

These differences indicate that structural integration is not interpreted uniformly but is mediated by audience cognition. From an analytical perspective, this implies that the effectiveness of cross-media translation depends not only on compositional strategies, but also on how audiences interpret and evaluate structural elements.

This finding is consistent with Hutcheon's view that adaptation is not only a process of production but also one of reception, where meaning is co-constructed through interaction between text and audience. Therefore, cross-media translation should be understood as a culturally mediated process, in which audience cognition plays a crucial role in shaping both perception and reception.

4.3 Case Analysis: Structural Modulation Across Media Environments

To further examine how structural participation varies across media environments, this study compares three platform types: music streaming platforms, television platforms, and short-video platforms.

On music streaming platforms, case data show that operatic elements are more likely to be preserved in their structural form. For example, in *Haishenmiao Canon* (2023), user comments frequently reference terms such as "structure," "counterpoint," and "operatic voice," indicating a high level of audience attention to musical organization. Structural analysis confirms that operatic elements actively participate in the overall composition. This suggests that complete listening environments facilitate a higher degree of structural integrity.

In contrast, television platforms introduce audiovisual elements that redistribute audience attention. While programs such as *Chinese Opera Conference* achieve high viewership, user comments tend to focus more on performance and visual presentation than on musical structure. This indicates that the integration of visual elements alters the perceptual focus, reducing emphasis on structural aspects of music.

On short-video platforms such as TikTok, structural compression becomes more evident. Due to time constraints, content is often limited to climactic segments, resulting in fragmented structural presentation. User responses are predominantly emotional rather than analytical, suggesting that structural complexity is reduced in favor of immediacy and impact.

Across these platforms, a consistent pattern emerges: different media environments impose distinct structural constraints on operatic elements. This can be understood as a process of "platform-conditioned structural modulation," in which the degree and form of structural participation are shaped by media affordances. From a theoretical perspective, this aligns with the view that adaptation is context-dependent, with structural transformation occurring in response to specific production and reception conditions.

4.4 Synthesis: Evidence-Based Reconstruction of the Developmental Model

By integrating findings from literature analysis, questionnaire survey data, and case studies, a coherent developmental pattern can be identified. The progression from symbolic usage to structural integration and ultimately to technological reconfiguration is consistently supported across multiple data sources.

Importantly, this model is not imposed a priori but emerges inductively from empirical observation. Literature analysis reveals long-term trends, survey data highlight audience-level differences, and case studies demonstrate how structural forms are shaped by media environments. The convergence of these independent sources provides a robust empirical basis for the stage-based framework.

Further analysis indicates that this process is not strictly linear. Instead, it reflects an adaptive system in which structural relationships are continuously reshaped through the interaction of artistic form, audience cognition, and media conditions. From the perspective of adaptation theory, this suggests that cross-media translation is best understood as an ongoing process of structural negotiation rather than a fixed transformation.

Therefore, the stage-based model should be regarded not as a prescriptive developmental sequence, but as an analytical construct grounded in observable data. It provides a framework for understanding how Chinese opera cultural genes are reconfigured within contemporary media ecosystems, and how their structural roles evolve across different contexts.

5. DISCUSSION AND CONCLUSION

Building on the empirical findings, this section further interprets the cross-media translation of Chinese opera cultural genes from the interrelated perspectives of structural distribution, audience cognition, and media conditions. Rather than reiterating descriptive results, the discussion aims to clarify the underlying mechanisms through which structural transformation occurs, thereby directly addressing the study's central research question: how operatic elements are reconfigured within popular music across different media contexts.

5.1 Structural Distribution of Operatic Resources

The literature analysis (n = 417) reveals that operatic resources are unevenly distributed across genres, with a concentration on widely recognized forms such as Peking Opera. This pattern is not merely a reflection of research preference, but indicates that certain operatic traditions possess structural characteristics that are more compatible with contemporary music production systems.

Specifically, genres with relatively standardized melodic systems, clearer rhythmic organization, and higher cultural visibility are more readily adapted into popular music. From an analytical perspective, this suggests that cross-media translation is conditioned by the structural adaptability of cultural materials, rather than being determined solely by aesthetic selection.

In this sense, the uneven distribution of operatic resources reflects differences in their capacity for structural reconfiguration. This finding contributes to the broader argument that cross-media translation operates as a selective process, in which certain structural forms are more likely to be retained, transformed, or amplified within new media environments.

5.2 Audience Cognition and the Interpretation of Structural Integration

The questionnaire survey (n = 200) demonstrates that audience cognition plays a central role in shaping how cross-media integration is perceived and evaluated. As shown in the empirical results, respondents from Southeast Asia exhibit higher recognition, acceptance, and engagement levels compared to respondents from Europe and America.

More importantly, the findings indicate that different audiences apply distinct interpretive frameworks. Participants with greater cultural familiarity tend to evaluate integration in terms of structural participation, such as melodic organization and rhythmic systems whereas those with less exposure rely more on perceptual cues such as timbre or stylistic markers. This distinction suggests that “structural integration” is not an inherent property of the musical work itself, but a cognitively mediated construct. In other words, the perception of integration emerges through the interaction between musical structure and audience knowledge.

From a theoretical perspective, this aligns with Linda Hutcheon’s view that adaptation involves both production and reception processes, in which meaning is co-constructed rather than fixed. Therefore, cross-media translation should be understood not only as a compositional strategy, but also as a process shaped by culturally conditioned modes of interpretation.

5.3 Media Conditions and Structural Modulation

The case analysis demonstrates that media environments exert a significant influence on how operatic structures are presented and perceived. Different platforms impose distinct temporal, perceptual, and technological constraints, which in turn shape the degree of structural participation of operatic elements.

Music streaming platforms, which support complete listening experiences, tend to preserve structural continuity, allowing operatic elements to function within the overall compositional framework. In contrast, television platforms redistribute attention across visual and performative dimensions, while short-video platforms impose strict temporal limitations that compress structural development into fragmented segments.

These patterns indicate that cross-media translation is not a uniform process, but one that is conditioned by platform-specific affordances. Structural transformation, therefore, can be understood as a form of “media-conditioned modulation,” in which the organization of musical elements is reshaped according to the logic of different media systems. This finding reinforces the view that adaptation is context-dependent, with structural outcomes emerging from the interaction between artistic form and media environment.

5.4 Integrated Interpretation of the Developmental Model

By synthesizing findings from literature analysis, survey data, and case studies, this study identifies a stage-based pattern in the cross-media transformation of Chinese opera elements. The progression from symbolic usage to structural integration and ultimately to technological reconfiguration is consistently supported across multiple datasets.

Importantly, this model is not derived from theoretical assumption, but from the convergence of empirical evidence. Literature data reveal long-term structural trends, survey results reflect audience-level differences, and case studies demonstrate how media conditions shape structural expression in practice.

At the same time, the findings indicate that this process is not strictly linear. Instead, it reflects a dynamic system in which structural relationships are continuously adjusted in response to changing artistic, cultural, and technological conditions.

From the perspective of adaptation theory, this suggests that cross-media translation should be understood as an ongoing process of structural negotiation rather than a fixed transformation. The stage-based framework, therefore, functions as an analytical tool for interpreting variation, rather than as a prescriptive developmental model.

5.5 Conclusion

This study has examined the cross-media translation of Chinese opera cultural genes in popular music through a combination of literature analysis, questionnaire survey, and multi-platform case observation. The findings demonstrate that the structural

participation of operatic elements evolves across different stages and is shaped by the interaction of cultural, cognitive, and technological factors.

Rather than representing a simple process of preservation or loss, cross-media translation emerges as a dynamic process of structural reconfiguration. Operatic elements are selectively retained, transformed, or recombined depending on their structural compatibility, audience interpretation, and media conditions.

By grounding the analysis in empirical data, this study provides a more nuanced understanding of how traditional Chinese opera continues to adapt within contemporary media ecosystems. It also suggests that future research should pay closer attention to the interaction between structure, perception, and media logic when examining the transformation of traditional arts in digital contexts.

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