



Fusion Pathways of Shandong Shadow Puppetry Movement Elements in Street Dance Choreography: A Digital Humanities Perspective

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Abstract. Shandong shadow puppetry, a national Chinese intangible cultural heritage (ICH), faces shrinking audiences and insufficient youth participation. Within digital humanities, ICH protection shifts from static archiving to living dynamic inheritance. As a mainstream youth art, street dance provides a feasible carrier for the innovative reconstruction of traditional puppet movement language. Based on morphological analysis and practical choreography creation, this paper sorts out three core movement features of Shandong shadow puppetry and explores three feasible paths integrating puppet movements into Popping, Locking and Hip-hop. The study summarizes the core contradictions of 2D-to-3D spatial conversion and style balance in cross-art fusion, combines a self-compiled dance case and small-scale audience field interview to verify fusion feasibility, and constructs a replicable innovation framework for ICH modern inheritance oriented to young groups under digital humanities.

Keywords: Digital Humanities; Intangible Cultural Heritage; Shandong Shadow Puppetry; Street Dance Choreography; Movement Fusion

1 Introduction

Traditional shadow puppetry is confronted with aging audience groups and insufficient contemporary inheritance^[2]. Driven by digital humanities, living heritage has become the mainstream protection idea for ICH, requiring traditional art to realize innovative expression adapting to modern aesthetics^[7].

Street dance has strong cross-cultural compatibility and is widely accepted by young people, yet existing fusion creation mostly stays in superficial element borrowing without systematic theoretical sorting of puppet movement rules^[4]. Taking typical northern Shandong shadow puppetry as the research object, this paper analyzes its inherent movement characteristics, constructs targeted choreography fusion paths, summarizes practical difficulties and coping strategies, and provides new ideas for the localized development of street dance and the youth-oriented inheritance of shadow puppetry^[5].

2 Theoretical Framework

2.1 Digital Humanities and Living Heritage

Digital humanities promotes ICH protection from passive archival preservation to living inheritance, focusing on the practical inheritance of folk art in contemporary creation and communication^[1]. For Shandong shadow puppetry, living inheritance means retaining core cultural connotation while adapting to digital communication and young aesthetic preferences via innovative artistic transformation rather than abandoning traditional features blindly^[3].

2.2 Movement Fusion Theory in Cross-Art Collaboration

Cross-art movement fusion aims to reconstruct movement elements under the premise of respecting the original cultural characteristics of two arts, balancing cultural authenticity and modern artistic expression^[6]. The fusion of shadow puppetry and street dance abides by three rules: cultural priority, human body movement anatomical rationality, and bidirectional style balance, avoiding over-sinicization or excessive westernization of dance creation.

3 Movement Characteristics of Shandong Shadow Puppetry

The three core movement features of Shandong shadow puppetry were screened via two-round Delphi expert consultation to ensure the objectivity and scientificity of feature extraction. A total of 11 experts consisting of intangible cultural heritage inheritors, folk dance scholars and professional street dance choreographers took part in expert scoring. After two rounds of indicator screening, redundant overlapping movement indicators were eliminated, and three core characteristic dimensions were finally confirmed. In addition, Shandong shadow puppetry mainly includes three mainstream genres: Taishan, Jiaodong and Southwest Shandong, whose differentiated movement characteristics produce different constraints and references for subsequent street dance fusion design.

Controlled by hand-held operating rods, Shandong shadow puppetry forms three unique movement attributes: dynamic quality, stylized pose, and rhythmic pattern.

3.1 Dynamic Quality: Staccato, Fractured Trajectory, and Suspended Poses

Rod manipulation forms the unique intermittent “stop-move” staccato of shadow puppetry. Restricted by puppet joint structure, its movement presents broken angular tracks with frequent temporary suspension after movement. Taishan shadow puppetry owns sharper intermittent staccato; Jiaodong style features longer suspended pause; Southwest Shandong puppetry has relatively smooth broken tracks, forming differentiated Popping adaptation directions.

3.2 Stylized Pose: Symbolic and Typified Modeling

After long-term inheritance, Shandong shadow puppetry forms fixed symbolic postures for warrior, female and clown roles respectively with distinct body features. Taishan warrior poses are stiff and angular; Jiaodong female modeling is soft and curved; Southwest Shandong clown postures are exaggerated, forming different transformation schemes for Hip-hop and Locking design.

3.3 Rhythmic Pattern: Gong-Drum Synchronization and Dynamic-Static Contrast

Puppet performance rhythm closely matches folk gong and drum accompaniment, alternating between fast intense fighting rhythm and slow lyrical rhythm. Taishan percussion is compact and rapid; Jiaodong accompaniment is gentle and slow; Southwest Shandong beats alternate frequently, matching different rhythm logic of various street dance types. As shown in Fig. 1, the three regional genres of Shandong shadow puppetry present distinct stylized modeling and fragmented movement characteristics.



Fig. 1. Typical images and movement forms of Shandong shadow puppetry.

4 Fusion Pathways of Shandong Shadow Puppetry Elements in Street Dance Choreography

Based on expert-screened core movement indicators and cross-genre puppet movement differences summarized above, three feasible fusion paths are concluded: stylized pose transplantation, dynamic quality embodiment, and narrative logic reconstruction.

4.1 Stylized Pose Transplantation

Classic fixed postures of three types of puppet roles are extracted and transformed into freeze frames in Popping and static styling of Hip-hop, retaining original limb proportion and body contour. This method can intuitively retain shadow puppetry cultural marks and is widely used in the highlight segments of dance works.

4.2 Dynamic Quality Embodiment

The intermittent staccato and suspended pause of puppetry are integrated into Popping muscle pop and Locking quick switch movements; for smooth-style Hip-hop, partial angular pause is added to enrich movement layers without destroying the original dance style.

4.3 Narrative Logic Reconstruction

Extract complete folk storylines from classic Shandong shadow scripts, organize dance arrangement following the “beginning-development-climax-ending” narrative framework, and use formation changes to simulate scene switching of shadow plays, avoiding simple mechanical stacking of scattered movement fragments.

4.4 Key Challenges and Adjustment Strategies

Three prominent obstacles exist in practical creation: 2D planar limitation converting to three-dimensional human body movement, mechanical puppet rigidity conflicting with natural human body movement, and balance between retaining puppet characteristics and maintaining street dance style. Corresponding optimization schemes are shown in Table 1.

Table 1. Key challenges and adjustment strategies in movement fusion.

Challenge	Specific Manifestation	Adjustment Strategy
2D-to-3D Spatial Contradiction	Shadow movements are limited to a 2D plane, lacking the three-dimensional sense of street dance	Add weight shift, torso rotation, and spatial extension to expand 2D poses into 3D movements while retaining the core contour
Rigidity vs. Fluidity Balance	Puppet movements are rigid and mechanical, conflicting with the smoothness of street dance	Soften excessive mechanical transitions, retain staccato rhythm and angular contour, and add natural connections between movements
Cultural Recognition vs. Style Integration	Overemphasizing shadow features leads to the loss of street dance style, or vice versa	Highlight shadow motifs in key poses and rhythm points, and adopt street dance style in transitional movements to achieve a balanced integration

5 Case Study and Audience Feedback Analysis

A 4-minute original dance work *Shadow Rhythms* is compiled based on Taishan local puppet legend material, combining Popping, Hip-hop and partial Locking elements to apply the three fusion paths above^[4]. A total of 120 young viewers aged 18–30 were invited to watch the finished work and take part in on-site subjective interview.

5.1 Overview of the Case Work *Shadow Rhythms*

The creation strictly follows cultural priority, anatomical feasibility and style balance principles, differentiating movement design according to three regional puppet styles of Shandong, and matching corresponding dance types for different role features of puppetry.

5.2 Audience Feedback Data Analysis

A five-level Likert questionnaire framework is designed in advance covering four dimensions: cultural recognition, artistic attractiveness, traditional inheritance perception and modern aesthetic matching, including 20 measurement items. Pre-research scheme is reserved for future formal investigation, while this study only carries out on-site oral subjective collection from 120 spectators without formal large-scale quantitative test and reliability & validity verification.

Overall oral feedback shows most audiences can quickly identify embedded shadow puppetry elements and recognize the rationality of cross-art fusion, and most respondents express improved interest in Shandong shadow puppetry after viewing the performance. Statistical comparison between groups and scale reliability analysis will be completed in follow-up expanded research.

5.3 Digital Communication Effect Planning

The finished dance piece is planned to be released on Douyin and Bilibili for digital communication test in follow-up research^[1]. At present, only the release plan is formulated, including segmented clip splitting, attached online questionnaire design for remote audience evaluation; specific platform operation data and spread effect analysis will be supplemented after actual online launch. This part serves as the practical reference direction of digital humanities non-technical inheritance.

6 Discussion

6.1 Cultural Value: Activating the Contemporary Inheritance of ICH

Puppet-street dance fusion breaks youngsters' stereotype of outdated traditional folk art, expands ICH communication channel relying on youth favorite art form, and pro-

vides replicable experience for other regional intangible heritage innovative inheritance.

6.2 Artistic Value: Promoting the Localized Development of Street Dance

Introducing Chinese traditional puppet movement enriches native movement vocabulary of domestic street dance, reduces excessive dependence on Western original dance logic, and also expands the three-dimensional performance boundary of traditional planar shadow puppetry.

6.3 Digital Humanities Implications: Non-Technical Cultural Regeneration

Different from AI and motion capture oriented technical digitalization of ICH, this research realizes heritage regeneration via body art creation, proving digital humanities also include practical cultural innovation beyond digital equipment application; subsequent online dissemination planning further complements the practical path of humanistic-oriented ICH revitalization.

7 Conclusion and Future Work

7.1 Conclusion

1. Under digital humanities background, ICH turns to living inheritance; combining Shandong shadow puppetry and street dance is an effective youth-oriented inheritance path for regional folk heritage.

2. Supported by expert Delphi screening, Shandong shadow puppetry owns three core movement characteristics with obvious differences among Taishan, Jiaodong and Southwest Shandong genres.

3. Pose transplantation, dynamic integration and narrative reconstruction are three feasible fusion paths, with targeted solutions for spatial conversion and style balance difficulties.

4. Small-scale audience interview verifies the acceptance of fusion creation among young groups, with prominent inheritance and communication value.

7.2 Limitations

The research only focuses on Shandong shadow puppetry and lacks cross-region puppet comparison; the 120-person sample is limited, formal questionnaire quantitative measurement and reliability inspection are not completed temporarily due to objective conditions, and online release experiment is not carried out.

7.3 Future Work

Expand research to Waacking and Breaking fusion design; complete formal large-sample questionnaire investigation and scale test later; implement short-video platform release according to existing planning and track long-term communication data of works.

Acknowledgment

This work was supported by the School-Level Scientific Research Project of Shandong Vocational University of Foreign Affairs under Grant No. 2026ZD14.

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