

Preserving Traditional Puppetry Through Digital Animation Bridging Intangible Cultural Heritage and Contemporary Visual Media

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Abstract: Traditional puppetry is one of man's oldest art forms and contains vast amounts of cultural knowledge, artistic tradition, and intangible heritage that have been passed down through generations. Globalisation, the development of new technologies, and changing audience tastes have contributed to the decline of many traditional forms of puppetry. This paper will discuss the history of traditional puppetry as it has developed and evolved across many different cultures, and it will argue that it constitutes an element of the intangible cultural heritage recognised by UNESCO. In addition, it will explore the structural and aesthetic relationship between traditional puppetry and the digital animation media by considering ways in which digital animation techniques can be used to both preserve and reinterpret traditional puppet aesthetics for a contemporary audience. By comparing 2D and 3D digital animation with the technique of digital rigging, we can demonstrate that digital animation is not simply a technological replacement but a creative extension of the traditional art of puppetry. The paper will conclude that the incorporation of traditional puppet aesthetics with digital technology provides a sustainable means of preserving cultural heritage and promoting new artistic creation, as well as creating new opportunities for audiences to engage with artists through digital technology.

Keywords: Traditional Puppetry, Digital Animation, Cultural Preservation, 2D Animation, Digital Media.

INTRODUCTION

Puppetry has been used as a form of storytelling in many other cultures throughout the world and continues to be a major form of telling stories about culture, religion, and art. Many cultures have developed different kinds of puppetry, including shadow puppetry in Asia, marionette theaters in Europe, and string puppets in India. For thousands of years, people have used puppetry to educate, entertain, perform ceremonies, and comment on social issues. Puppetry's long history has allowed it to become a collective memory of many communities through the use of performing events, making objects, and sharing music and oral stories. Despite its history of use, traditional puppetry faces numerous problems in the 21st century. Rapid advancements in technology, urbanization, globalization, and an increase in the popularity of digital entertainment have caused the public to have less interest in the traditional

performing arts. Because of these factors, many traditional puppetry forms are losing both their audiences and their artists, and the transfer of the art's knowledge to future generations has been disrupted. Because puppetry is an intangible cultural heritage, the survival of the culture relies not only on physical artifacts but also on the preservation of the skills and traditions used to create the art (e.g., the stories, the way to perform the stories, and the cultural elements of puppetry).

Digital animation provides opportunities for addressing some of the challenges faced by traditional puppetry. Many similarities between puppetry and digital animation can be found in their respective structures and aesthetics, such as controlled movements, stylized visuals, symbolic representations, and expressive use of animations. Due to the similarities between the two art forms, digital technologies can recreate traditional puppet performances while preserving their original cultural identity. Newer digital animation software, digital rigging systems, and interactive media are providing ways to reproduce and present classic puppets to a modern audience while still holding true to the original artistic integrity.

This article has three sections: it will provide an overview of the historical and cultural importance of traditional puppetry, it will discuss its value as an intangible cultural heritage, and it will explore its relationship with digital animation. Additionally, this article will explore ways that animation techniques used today help preserve, revitalize, and disseminate globally all types of puppet traditions, thus linking cultural heritage and modern visual media.

HISTORICAL AND CULTURAL CONTEXT OF TRADITIONAL PUPPETRY

Many of today's creative expressions can trace their origins to traditional puppetry. Many forms of human artistic expression predate written literature and conceptions of theatrical performance in many world cultures over thousands of years. Evidence suggests that articulated figurines made out of clay or ivory that had joints with movable limbs were recovered from Egyptian tombs that date back to about 2000 BCE; thus, it is believed that those figurines may have been part of a ritual or performance. Ancient Greece had clay, terracotta figurines that were found in the graves of children; this evidence indicates that articulated clay figurines had great social and cultural importance. Ancient Sanskrit texts from the Indian subcontinent contain references to puppetry as early as classical Sanskrit: the term "Sutradhar" (one who holds the strings) in Panini's "Ashtadhyayi" (c. 4th century BCE) is used as a term for a director of a theatrical performance; this indicates that puppetry was well

developed enough to be used as a metaphor for the management of more broadly understood dramatic works. Many references to puppet play can be found in the Mahabharata and the Ramayana, along with references in Bharata Muni's (c. 200 BCE–c. 200 CE) *Natyashastra* to various conventions for gesture and movement that can be closely compared to the structure of the conventions of puppetry. All these references indicate that there has been a long-standing and mutually beneficial relationship between puppetry and the wider body of performance traditions found in classical Indian performance.

The origins of puppetry in East Asia are both extremely old and very elaborate. In fact, according to Chinese records that date back to the Han Dynasty, mechanical wooden figures were created to be used in memorial celebrations, funeral rituals, and other acts of adoration for deceased individuals. Documentation of the emergence of *piyingxi* (shadow play) can also be found in records from the Tang Dynasty dating back some 2000 years, when this performance style was highly regarded within their courtly performance culture as an important art form within the realm of public entertainment. The *piyingxi* performance art transformed into its finest art expression during the Song and Ming Dynasties; during this time, it had developed a rich lexicon of puppet designs, storylines, and performance techniques that later influenced theatrical art forms throughout both East and Southeast Asia. The Japanese *Bunraku* art of *ningyo joruri* was formalized during the Edo period (1603-1868) and achieved a high degree of sophistication as an alternative, yet equally prestigious, art form to the live *kabuki* performance. *Bunraku* established its own theaters, practitioners' guilds, and an extensive library of dramatic texts by playwrights of high esteem, such as Chikamatsu Monzaemon. The *Wayang Kulit* shadow puppet theater of the Javanese and Balinese typified the cultural and philosophical diversity found within Southeast Asia.

As in East Asia, the development of puppetry in Europe evolved independently of that occurring in the East but, like in the East, occurred in the Medieval and Early Modern periods. What evolved within these periods was the emergence of the *commedia dell'arte* style of Italian theater in the 16th and 17th centuries. The evolution of the *commedia dell'arte* gave rise to the figure of *Pulcinella*. *Pulcinella* eventually migrated north and became *Polichinelle* in France and *Punch* in England—ultimately leading to the emergence of the Mr. Punch and Judy tradition in England, which began to take on the characteristics of British popular entertainment in the 18th century. Within these puppet traditions, puppets provided an avenue for popular entertainment, expression of public opinion, political satire, and the ability to

legally express ideas and sentiments that might not otherwise have been socially accepted or politically safe for human performers to express. The Turkish Karagoz shadow puppet tradition, defined by the black-eyed principal figure of the puppet, was created to be a vehicle for the cultural expression of the Ottoman people and to provide comic satire of their society. Therefore, the Karagoz shadow puppet tradition formed a mechanism for addressing the social issues and political events that impacted Ottoman society by acting as a medium with an "unlicensed" voice through the use of puppets as performers.

TRADITIONAL PUPPETRY AS INTANGIBLE CULTURAL HERITAGE

UNESCO's 2003 Convention for the Safeguarding of Intangible Cultural Heritage has given worldwide recognition to traditional puppetry as intangible cultural heritage (ICH) via a formal agreement. In 2008, puppets were further acknowledged as part of ICH, and, to date, thirteen different puppetry traditions have been listed as part of the ICH designation, including Bunraku from Japan, Shadow Puppet Theatre from China, Belgian Marionette Theatre and Italian Glove Puppet Theatre. This recognition provides proof of a growing global commitment to protect not only the tangible elements of puppetry, such as the stunningly crafted puppets, scenery and staging structures, but also to protect the living traditions, skills developed through the process of performing puppetry, stories told and cultural knowledge passed on through the art form.

Intangible cultural heritage differs from tangible heritage in that intangible culture has a processual and therefore a temporal quality to it. Unlike monuments or artefacts, intangible culture is only made real by its ongoing performance by the participants (puppeteers and the audience); the tacit knowledge of what a master puppeteer knows (such as what kind of wrist tension is required to create a movement and the intuitive understanding of timing) cannot be collected or stored through archives or documentation alone and can only be transmitted by the physical practitioners (puppeteers and the audiences) to one another and between each new wave of practitioners and audience. Tacit knowledge is embodied through long-standing physical engagement between practitioners and audiences and continues to exist only within ongoing performance-based communities. Therefore, the existence and ongoing survival of intangible cultural heritage are contingent upon the physical continuance of these performances and the social connections between those communities.

Contemporary cultural shifts particularly highlight how social and relational aspects of puppetry knowledge are vulnerable to upheavals. The transfer of puppetry knowledge is not merely a transfer of information from one person to another; it is a complicated social process in which the student integrates into a performance group and acquires cultural frameworks, technical abilities, personal perspectives in terms of interpretation, and social information, all of which provide context for the development of technical skills. A young Kathputli apprentice will not only learn how to operate the strings of a puppet; he/she will learn the entirety of the narrative body from the Rajput epics/fables produced by the puppetry tradition; the specific musical conventions (i.e., rhythmic patterns, melodic forms, and types of songs) within which the art of puppetry exists; and the social guidelines controlling the relationship between the performer and audience on the sites in which the art of puppetry is being practiced, and he/she will gain through years of performing an internalized awareness that can unify all of these components at the moment of performing.

DIGITAL ANIMATION AS A MEDIUM: AFFINITIES WITH TRADITIONAL PUPPETRY

For the last three decades, digital animation has become one of the primary ways culture is produced; it has moved from being used only in theatrical feature films to being used throughout the world in virtually all forms of gaming and new media, social networking sites, and digital art. Animation has a long-standing structural relationship with traditional puppet performance that is not just a coincidence but rather runs deep historically and is also a basic part of its overall aesthetic. According to Giesen (2018), the founders of animation as a film medium borrowed extensively from the aesthetics and methodologies employed in the art of puppetry as they created their new filmic medium. For example, Lotte Reiniger's well-known silhouette films (the most notable of which is *The Adventures of Prince Achmed* (1926)—the first full-length animated feature film) were based on Asian shadow puppetry; they translated the 2-dimensional aesthetic properties of shadow puppetry, the character forms with profile silhouettes, and the restricted movement vocabulary of shadow puppetry into a filmic medium. The stop-motion puppet films created by Ladislav Starevich in the 1910s and 1920s drew directly from the same tradition as the art of articulated puppet performance. Likewise, the fundamental principles of animation practice that were codified by Disney Studio animators, including the exaggerated movements of animated characters (exaggeration), the use of anticipation for actions, stylising the design of a character so that it looks unusual or unnatural

(stylised non-naturalistic designs), and the use of timing and spacing to convey a sense of physical quality in your character's motion (timing and spacing), can all be traced back to the same fundamental aesthetic precedents established by puppeteers through their long history and tradition; the two arts have been developed from common roots and continue to share principles of aesthetic development.

The historical element is not the sole factor creating a structural relationship between puppetry and animation; both share underlying aesthetic characteristics. Both forms of art create and control movement rather than using the natural movement of a puppet or animated character as a means of reproduction (i.e., they are not mimetic arts representative of reality; they are constructed art forms, meaning all elements of a performance have been created with intention). Both artists utilize exaggerated, stylized, and abstract expressions instead of real-life mimetic expressions; for example, the extreme emotion conveyed by the exaggerated gesture of a shadow puppet is similar to the way a Disney animator uses squash and stretch to create the illusion of physical force. Both utilize symbolic visual design (appearance, costume, colour scheme, body shape, and facial construction) to communicate character, morals, and cultural information without having to use extensive words or context, as would normally be required in naturalistic theatre. Additionally, when using inanimate objects as a creative starting point, puppets are animated by the puppeteer's skillful manipulation of the material, whereas animated characters come to life through the animator's expertise in creating movement.

These principles hold major repercussions for the ongoing study. The first consideration is that utilizing puppetry aesthetics in digital animation is not an arbitrary choice; instead, it is based on genuine structural reasoning, which creates a truly meaningful creative act by translating between the two forms. Voci (2017) identifies an emergent trend in the use of shadows and handmade film within contemporary Chinese digital filmmakers, where individual filmmakers use the visual aspects of shadow play and the movement characteristics of shadow puppetry as reference points for the production of digital works and distribute them through modern media outlets. By utilizing this reference, these artists are not merely being nostalgic; rather, they are creating a legitimate aesthetic and philosophical statement that can serve as an alternative method to the hyperrealism and the excessive technology of commercial CGI. Therefore, the impressionistic aesthetics of puppetry can serve as a viable and current source of creativity to inspire and create unique and innovative work. Two-dimensional (2D) digital

animation has a unique affinity for representing many of the aesthetic and visual qualities associated with the use of shadow puppets. The two-dimensional flat graphic visual language that is used in a traditional shadow puppet performance [i.e., characters are viewed as either silhouettes or graphic depictions of highly stylized images against a screen that is backlit from behind] transitions easily into the 2D digital animation form as it applies the same principles of presenting profiles, simplifying graphic artwork, and moving an image between frames with controlled sequential movement but within the framework of technical precision and limitless creativity offered by technology. Through the use of 2D digital animation software tools, animators can create animated works of art using digital drawing tools, layered compositions, and complex character rigging systems that closely mimic the control logic associated with traditional puppet manipulation. A digitally rigged 2D puppet character has a set number of articulation points or areas where movement is restricted and has control interfaces that are manipulated by an animator in order to achieve the desired movements for that character using an identical structural logic to the logic used by a puppeteer in controlling the movement of a puppet via strings or rods.

DIGITAL ANIMATION TECHNIQUES RELEVANT TO PUPPETRY TRANSLATION

Digital animation, a creative medium, encompasses various technical approaches, each offering a range of expressive opportunities and aesthetic implications. There are three main sub-domains of digital animation that pertain to the study of aesthetic translation from puppetry: two-dimensional digital animation, three-dimensional computer-generated animation, and real-time rigging and manipulation systems for digital characters. Understanding the specific possibilities and limitations of each method enables creatives to effectively translate particular puppetry aesthetic principles into the digital realm. Two-dimensional animations began as cel animations for major commercial studios in the early 20th century, but once the tools shifted to digital formats, the overall organization of these works became more flexible and efficient. Contemporary 2D digital animation software provided by Adobe Animate, Toon Boom Harmony, and Krita (open-source) adds to the animator's ability to use drawing tools, multi-layer compositional systems, and sophisticated rigging systems to provide an animator the ability to animate without the requirement of redrawing all frames. The visual possibilities within two-dimensional animation vary greatly, depending on the quality of the art itself, and can include naturalistically rendered characters

to visually graphic or stylized depictions that reference Japanese anime, graphic novel illustrations, folk arts and, lastly, the flat silhouette visual field of shadow puppet performance typically found in the context of the current study.

In reference to shadow puppetry aesthetic translation, two-dimensional digital animation is the primary technical domain due to the flat and graphic nature of shadow puppetry. Shadow statue characters are represented as simple, two-dimensional graphic silhouettes behind a lighted background. The two-dimensional digital format enables precise reproduction of profile silhouettes along with graphic condensing and sequence-controlled movement in the digital environment. In addition to reproducing the Gregorys' combination of silhouette characters, 2D graphic-filled characters and layered translucent backgrounds, 2D digital animation allows for artistic enhancements that could not be accomplished or, at the very least, would be extremely difficult to achieve in physical shadow puppeteering, thereby greatly expanding the limits of the artistic representation of shadow puppet aesthetics in the digital world.

The use of three-dimensional digital animation has added the dimension of virtual space, light, and camera, thus allowing for animated characters that can be placed in constructed three-dimensional environments and be viewed from various angles. This creates a spatial depth and visual richness to the animated characters that do not exist within the flatness of a shadow puppetry performance, as well as presents creative opportunities and aesthetic dangers to the puppetry translation. The creative opportunity is created by the enhanced visual presence and spatial situatedness of 3-D animated characters, allowing for a physical weight and grounded environment for digitally animated characters, providing an additional layer of visual expressiveness to the movement-orientated expressiveness of the puppetry aesthetic. The creative aesthetic danger of 3D animation — especially when it seeks photorealism — is the tendency to create an aesthetically disconnected visual character from the puppetry tradition they want to build on, even though they are very visually stunning, because they have moved away from the deliberate stylization or abstraction that has been foundational to the expressivity of traditional puppetry. In addition to connecting the physicality of puppets with the digital realm, creating a digital rig—composed of virtual skeletal and control structures that dictate how a digital character can move—means that a digital rig functions as a digital puppet; it is a controlled object with organized articulation points and movement limitations from which an animator can animate the object to perform specific movements and behaviours.

The relationship between animators operating a rigged digital character and puppeteers manipulating a rod or string puppet is a structural analogy of the same creative function: the application of control input through a specific interface that creates movement for the character/object/performer within the physical and logical limits of the digital rig/puppet's construction. Therefore, puppetry traditions have established creative principles for effectively operating within the constraints of puppet control systems/formations, and these principles are directly applicable to the effects of creativity when using digital character rigs. Similarly, a puppeteer's expertise in developing maximum expressiveness in a particular style of puppet is relevant to an animator who works expressively within the constraints of a specific digital rig architecture's movement possibility.

CONCLUSION

Puppetry as an artistic form has always served to be an indispensable part of cultural heritage worldwide by conserving and passing along artistic traditions, historical accounts, and the cultural identity of communities over centuries. Although puppetry may be classified as an intangible cultural heritage, the sustainability of puppetry relies on the continued transmission of knowledge about practical skills, performance traditions, and values rather than only the preservation of tangible objects. This Study found that digital animation offers an effective and creative new way to preserve and revitalize traditional forms of puppetry. Because puppetry and animation are closely structured through movement control, stylization of images, expression of characters, and design of performances, digital technology can be used to re-interpret the aesthetic qualities of traditional puppetry while providing additional opportunities for creativity in the interpretation of traditional styles of puppetry. In addition to preserving the performance tradition of traditional puppetry, two-dimensional animated characters, digital rigging systems, and three-dimensional environments have been created as new ways of preserving performance traditions in a way that will not reduce their value to culture. Digital animation is seen as a way to complement traditional puppetry by providing an enhanced forum for distribution of traditional puppets to a wider audience of contemporary people, educational institutions, museums, and global electronic media. The incorporation of traditional artistic principles with modern animation technologies can ensure that cultural heritage will remain true and applicable to an ever-evolving digital world. Sustained collaboration between practitioners of culture, academic researchers, animators and heritage

organizations will be essential for the continuing inspiration of future generations and the successful adaptation of traditional puppetry to changes in styles of creative expression.

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