

Cultural elements in Chinese animation characters: A systematic review of their visual, narrative, and communicative roles

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Abstract: As an important carrier of cultural communication and artistic expression, animation has gradually formed a unique style and charm in the process of development in China. Cultural elements in Chinese animation character design not only give characters distinct personalities and rich meanings, but also build a bridge of emotional resonance and cultural inheritance between audiences and works. An in-depth study of this topic helps to explore the potential of Chinese animation and improve its influence in the domestic and international cultural markets. This study aims to explore the application of cultural elements in Chinese animation character design, in order to enhance cultural expression and global communication. A systematic literature review (SLR) was conducted to collect and analyze relevant studies from 1945 to 2024. The review summarizes how cultural elements function in visual presentation, narrative structure, and cultural communication. The findings show that cultural elements play a significant role in shaping character identity, strengthening emotional connection, and conveying values. However, existing research still faces problems such as vague classification and a lack of empirical studies. This study deepens the understanding of the role of cultural elements in character design and provides theoretical and practical references for animation creators. It also promotes the global dissemination and recognition of Chinese culture through animation.

Keywords: Animation industry, Character design, Chinese animation, Cultural elements, Traditional aesthetics.

1. Introduction

As an important medium for cultural expression and artistic presentation, Chinese animation has developed a unique style and aesthetic appeal [1]. The integration of cultural elements in character design enhances characterisation, strengthens narrative expression, and promotes cultural transmission [2]. A deeper study of these elements can help explore the potential of Chinese animation and expand its influence in domestic and international cultural markets [3].

This study examines the role of cultural elements in Chinese animation character design. It reviews existing academic research and analyses its impact on characterisation, narrative expression, and cultural transmission. Through a Systematic literature review (SLR), it summarises the main categories and manifestations of cultural elements. It also evaluates their significance in animation storytelling and cross-cultural communication. Additionally, this study identifies the limitations of current research and proposes directions for future studies to improve the application of cultural elements in character design.

This study aims to answer the following questions:

RQ1: What are the manifestations of cultural elements in Chinese animation character design?

RQ2: How do these cultural elements influence the visual design and narrative construction of characters?

RQ3: How do existing studies explore the role of cultural elements in animation character design?

Research objectives include:

RO1: To summarize the main manifestations of cultural elements in Chinese animation character design.

RO2: To analyze the impact of cultural elements on characterisation, narrative expression, and cultural transmission.

RO3: To identify the limitations of current research and propose directions for future research.

This study aims to deepen the understanding of cultural elements in animation. It provides a reference for animation creators and promotes the dissemination of Chinese culture in the international animation market.

2. Background

In recent years, the Chinese animation industry has experienced remarkable development, driven by technological advancements, market expansion, and supportive government policies [4]. The influence of Chinese animation in the international market has been steadily increasing, reflecting its growing cultural and commercial significance [5]. The integration of cultural elements into animation not only enhances the cultural identity of the works but also fosters a deeper sense of identification among audiences with the characters [6]. Many Chinese animated films, such as *Ne Zha 2* [7] *White Snake: Afloat* Chen and Li [8] and *Chang An* [9] have successfully drawn upon traditional Chinese culture to shape their characters and narratives, achieving notable market success both domestically and internationally. These films exemplify how cultural heritage can be creatively reinterpreted to resonate with contemporary audiences [10]. A systematic literature review of studies published between 2012 and 2022 was conducted by Chahuara Escala, et al. [11] focusing on semiotics and audiovisual narratives in animated series and films. Xin and Thinakaran [12] study explores the techniques used in cloth and hair animation, their evolution over time, and the current challenges, employing a Systematic Literature Review (SLR) method. Sani and Sin conduct a systematic review to explore the definition of symbolism in character costumes and the elements utilized to convey this symbolism in animated folklore films [13]. Therefore, the study of cultural elements in Chinese animation design holds significant theoretical and practical value. This research context emphasizes the importance of exploring how cultural elements in characterisation improve narrative expression and promote cultural transmission through animated works.

3. Methodology

This research employs the Systematic Literature Review (SLR) methodology to maintain academic rigor, following standardized protocols for data collection and synthesis. Systematic Literature Review (SLR) originated in medical research and was later applied to social sciences, including management studies [14–16]. This method provides a transparent and replicable search process. It ensures the academic relevance and rigor of selected literature. Petticrew and Roberts define a Systematic Literature Review (SLR) is a standardized research methodology [17]. It applies structured analysis to existing studies through standardized procedures. Evidence-based principles ensure the scientific validity and objectivity of research findings. Researchers use this method to search for and evaluate studies related to a particular research topic. It has been widely applied in animation and character design [11–13].

First, as shown in Figure 1, we set the literature search period from 1949 to 2025. This timeframe covers the rapid development of China's 3D animation industry and reflects recent academic trends in culturally inspired character design. Second, we select four internationally recognized academic databases: CNKI, EBSCO, Scopus, and Web of Science to ensure the authority and broad coverage of the selected literature.

During the search process, we apply a keyword combination strategy. The search terms (“3D animation” OR “character design”) AND (“Chinese culture” OR “cultural inspiration” OR “aesthetic

theory”) are used to ensure the search scope includes core studies related to 3D animation, character design, and cultural inspiration.

Next, we apply inclusion and exclusion criteria to filter the results. We exclude duplicate records, non-English or non-Chinese papers, conference abstracts, and non-academic articles, retaining only relevant core studies. Finally, we use Zotero for literature management and classify the selected studies based on research objectives. By summarizing and comparing different perspectives, we develop a systematic understanding of cultural elements in Chinese animated character design. The Defining search protocol for the systematic literature review is shown in Figure 1.

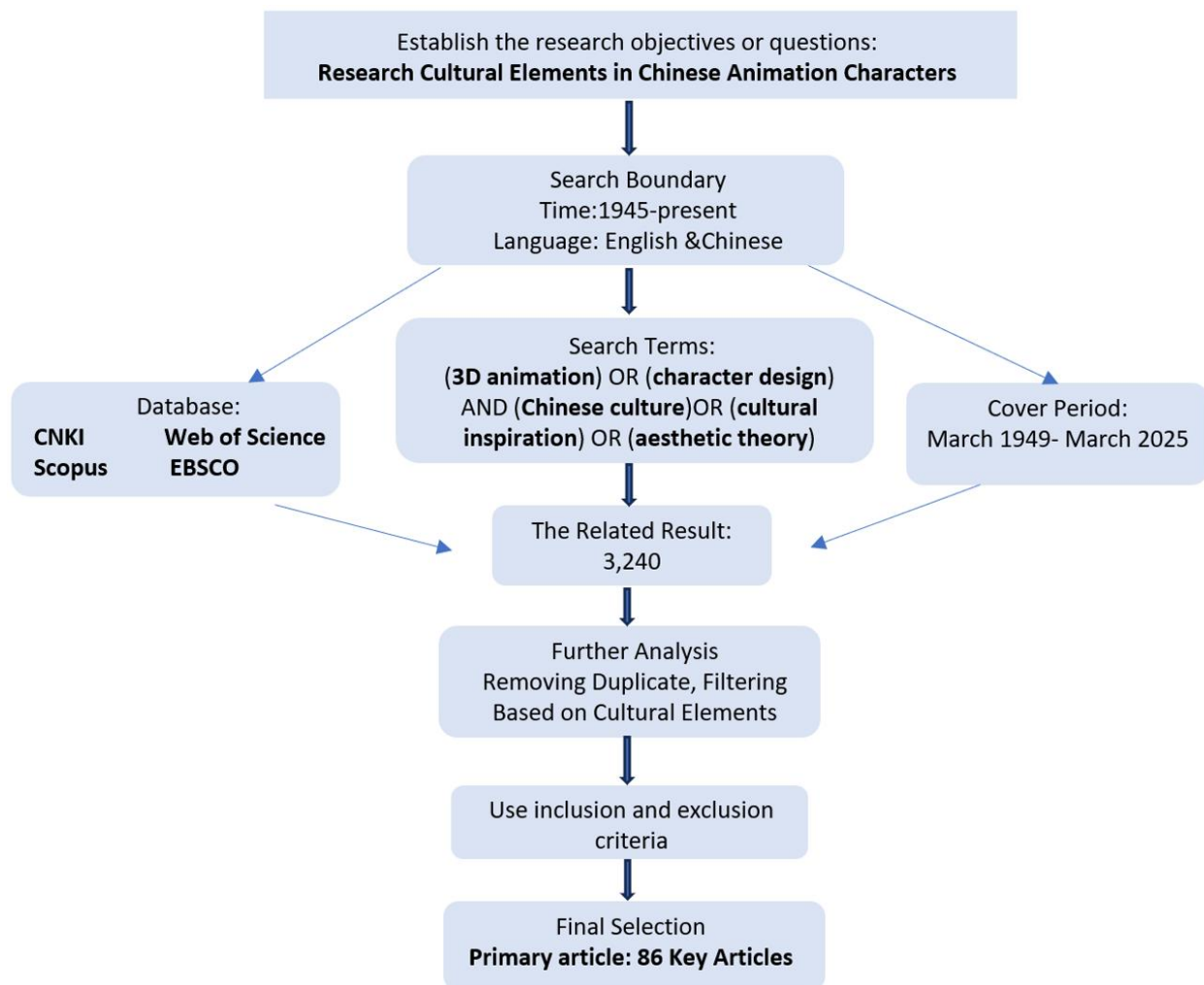


Figure 1.
Defining search protocol for the systematic literature review.

4. Results and Discussion

4.1. Cultural Elements in 3D Chinese Animation Character Design

Cultural elements consist of both material and immaterial forms. Both play an essential role in shaping animated characters and advancing storytelling [18]. Material culture includes clothing, architecture, props, and patterns. These visual elements serve as concrete carriers of cultural heritage [19]. For instance, in *White Snake: Afloa* [8] the character's costume design cleverly incorporates Tang Dynasty aesthetics. This gives the character a strong sense of historical authenticity. Intangible

culture includes myths, legends, religious beliefs, and philosophical ideas. These invisible elements provide the cultural foundation and background for character design [20]. The Big Fish and Begonia Liang and Zhang [21] drawing inspiration from ancient Chinese philosophical concepts, provides a strong cultural foundation for character design [22]. Additionally, traditional Chinese aesthetic styles, including ink-wash painting, meticulous brushwork, and opera art, have significantly influenced the visual design of animated characters [23]. For instance, in the film Little Door Gods [24] the character design incorporates Peking Opera mask elements. This enhances the character's distinct Chinese identity [25]. These cultural dimensions not only improve the visual and narrative depth of animation but also strengthen its cultural resonance and global appeal [26].

Table 1.

The role of cultural elements in character design.

Cultural Elements	Author(s)	Film Title	Clothing/Visual Elements	Cultural Role
Traditional Mythological Figure	Zhang [27] and Zhang, et al. [28]	Ne Zha: Birth of the Demon Child	Modern adaptations of traditional costumes, fused with contemporary style armour	Balancing Innovation and Tradition to Strengthen Audience Emotional Connection
Costume and Cultural Reproduction	Xie and Zou [9] and Xu [29]	Chang An	Tang costumes, ornate architectural styles, and Tang Dynasty street scenes	Realistic restoration of history and culture, enhancing narrative authenticity, and immersing the audience in it
Character Costumes and Symbolism	Tian [30] and Xu [29]	Monkey King: Hero is Back	Armour, Buddhist sculpture style, gold and red elements	Embodying the sanctity and resilience of heroes and conveying the image of traditional Chinese heroes
Clothing and Philosophical Themes	Sun and Hua [6] and Liang and Zhang [21]	Big Fish and Begonia	The ethereal dresses, the ethereal colors, the flowing ink style, the embodiment of man and nature, and the universe.	Embodying the connection between man and nature and the universe, enhancing the philosophical mood of the film

4.2. The Role of Cultural Elements in Character Design on Characterisation, Narrative Expression, and Cultural Transmission

As shown in Table 1, this section explores the role of cultural elements in animated character design. Clothing and visual elements contribute to characterisation, narrative expression, and cultural transmission. Through case studies of outstanding Chinese animated films, such as a Monkey King: Hero Is Back Tian [30] and Big Fish & Begonia Liang and Zhang [21] Ne Zha: Birth of the Demon Child Jiao [31] and Xie and Zou [9] has explored how these cultural elements are integrated into characters design, enhancing emotional resonance with audiences and boosting global appeal.

Cultural elements play a crucial role in shaping the identity and personality of animated characters. They enrich the narrative layers of animations. These elements strengthen the audience's sense of immersion. They also foster emotional resonance with viewers [32]. This section explores how cultural elements are integrated into character design across three key dimensions: characterisation, narrative expression, and cultural transmission.

In animated films, integrating cultural elements into character design enhances the cultural identity of the characters. It also strengthens the audience's sense of belonging and emotional resonance [30]. Animators incorporate cultural symbols, traditions, or narratives into character design. This integration connects fictional worlds with the audience's cultural awareness [27, 33, 34]. For instance, Ne Zha: Birth of the Demon Child [31] exemplifies this approach by modernizing the traditional mythological

figure of Ne Zha while preserving core elements of the original legend [33, 35]. This balance between innovation and tradition not only reshapes character design but also strengthens the emotional connection between characters and the story [27, 36]. As a result, it deepens audience engagement with animated films.

Animation designers use culturally rooted historical frameworks to create virtual spaces. This enhances authenticity and storytelling [37]. By grounding stories in specific cultural settings, animators can create rich, believable worlds that resonate with audiences [23, 38]. A notable example of an animated film is *Chang An* [9], which meticulously recreates the flourishing culture of the Tang Dynasty [39, 40]. Through the depiction of character attire, language, and architectural styles, the film transports viewers to ancient China, offering a vivid portrayal of its cultural elements and aesthetic sensibilities [40]. This attention to cultural detail not only enhances the authenticity of the narrative but also serves as a visual and thematic anchor, enabling audiences to connect with the story on a deeper level [41]. Therefore, Chinese animation uses history and culture as a powerful tool for storytelling, incorporating creative imagination while taking historical accuracy into account, to build animated characters with Chinese characteristics, thus strengthening its visual expression, narrative structure, and cultural transmission function.

Cultural elements such as clothing, accessories, and color schemes are instrumental in expressing the personalities and traits of animated characters [42]. These visual cues provide immediate insights into a character's background, motivations, and role within the narrative [43]. For instance, in *Monkey King: Hero is Back* [30] the design of Monkey King draws inspiration from traditional Buddhist sculptures, emphasizing his heroic and divine qualities [29]. The character's dynamic posture, intricate armor, and overall color scheme reflect their social status and identity. They also convey the character's inner spirit and personality traits [44]. Similarly, in *Big Fish and Begonia* [21] the protagonist Chun's flowing costume and the film's ethereal color palette align with its philosophical themes. The storyline of the protagonist and the whale highlights the connection between the character, nature, and the universe. By utilizing the aesthetic values of traditional culture, animators can create visually appealing characters with thematic resonance [45].

Integrating cultural elements into animated character design helps shape character identity and personality [32, 46, 47]. By drawing on material and non-material cultural resources, animators can create characters and narratives that are both culturally authentic and universally appealing [48]. This approach not only enriches the artistic and narrative dimensions of animation but also strengthens its ability to connect with diverse audiences on an emotional and cultural level [49]. As the global influence of Chinese animation continues to increase, the in-depth integration of cultural elements will still constitute its core competitiveness, which not only enriches the visual performance and narrative structure but also plays a key role in cross-cultural communication, providing an important reference for theoretical research and creative practice.

4.2.1. Cultural Expression in Character Visual Design

The visual design of animated characters serves as a critical medium for cultural expression, integrating traditional aesthetics and cultural elements to create culturally resonant and visually compelling figures [50, 51]. This section examines three core dimensions of cultural expression in character design—silhouette and dynamic lines [52] color symbolism, and costume and accessories [13] demonstrating how these elements collectively enhance the cultural authenticity and artistic impact of Chinese animation. Table 2 shows an example of cultural expression in character visual design. As discussed in the following section.

The visual design of animated characters shapes their personality and conveys cultural characteristics [53]. By combining traditional cultural elements with modern design techniques, character images indirectly reflect a rich cultural heritage and enhance audience recognition. Integrating Chinese traditional art elements, such as gongbi painting, paper cutting, and opera costumes, into character design helps establish distinct cultural characteristics. These cultural elements

not only add depth to animated works but also promote and spread Chinese traditional culture globally [54].

Furthermore, the integration of traditional cultural elements in character visual design is not just a collection of symbols. It is a creative design process based on cultural meaning and innovation [53]. In the design process, cultural elements such as silhouettes, dynamic lines, colors, and costumes should align with the overall style. This ensures that characters respect cultural traditions while meeting modern audience expectations. For example, character silhouettes often draw inspiration from traditional art styles to enhance cultural identity. Color symbolism is based on historical texts and folklore studies to accurately convey cultural meaning within a specific context [55]. The design of costumes and accessories should incorporate traditional ethnic clothing elements while meeting narrative requirements. This ensures that the visual effect of the character has cultural symbolism and remains consistent with the story and overall design style [13]. The following sections will explore the role of each visual element in cultural expression in detail, as shown in Table 2.

Table 2.

Cultural expression in character visual design.

Organizational Cultural Expression Dimension	Author(s)	Chinese Cultural	Other Cultural
Silhouette	Wang [41]; Sani and Sin [13]; Ling and Ghani [56] and Ye [57]	Chinese calligraphy: fluidity and rhythm of brushstroke.	Western animation: angular, geometric styles
Dynamic Lines	Blair [58] and Zhao [59]	Peking Opera facial makeup: stylized lines	Character's dramatic effect: accuracy of dynamic lines
Color Symbolism	Alieva [60]; Fredriksson [61]; Jiang [62]; Zhu [63]; Li [64]; Liang and Zhang [21]; Islam, et al. [65]	Color plays a symbolic and narrative role; conveying character traits and thematic undertones. red symbolizes auspiciousness, vitality, and heroism.	The base color of the character: character's personality through a color application. red symbolizes Blood, passion, sexuality, fertility, fecundity, anger, sensuality, etc.
Costumes	Cao, et al. [66]; Zhu and Rattanachaiwong [67] and Sun and Hua [6]	Traditional garments such as Hanfu, armor, and embroidered patterns, Ming Dynasty court dresses, featuring wide sleeves, layered silk fabrics, and floral embroidery. Tang Dynasty armor and scholar robes.	Combined with modern elements: Baju Melayu, Baju Kurung, Qipao, Tangzhuang, Saree, and Kurta.
Accessories	Guo [68] and Xu and Chung [39]	Jade pendants, hairpins, and ceremonial weapons.	Emphasize the connection with nature: bark cloth or feather decorations.

LINE OF ACTION

AN IMAGINARY LINE EXTENDING THRU THE MAIN ACTION OF THE FIGURE IS THE "LINE OF ACTION" -- PLAN YOUR FIGURE AND ITS DETAILS TO ACCENTUATE THIS LINE -- BY SO DOING YOU STRENGTHEN THE DRAMATIC EFFECT -- THE FIRST THING TO DRAW WHEN CONSTRUCTING A FIGURE IS THE LINE OF ACTION -- THEN BUILD OVER THAT.



BELOW "TOM+JERRY," M.G.M. STARS. ILLUSTRATE THIS CARTOON LAW

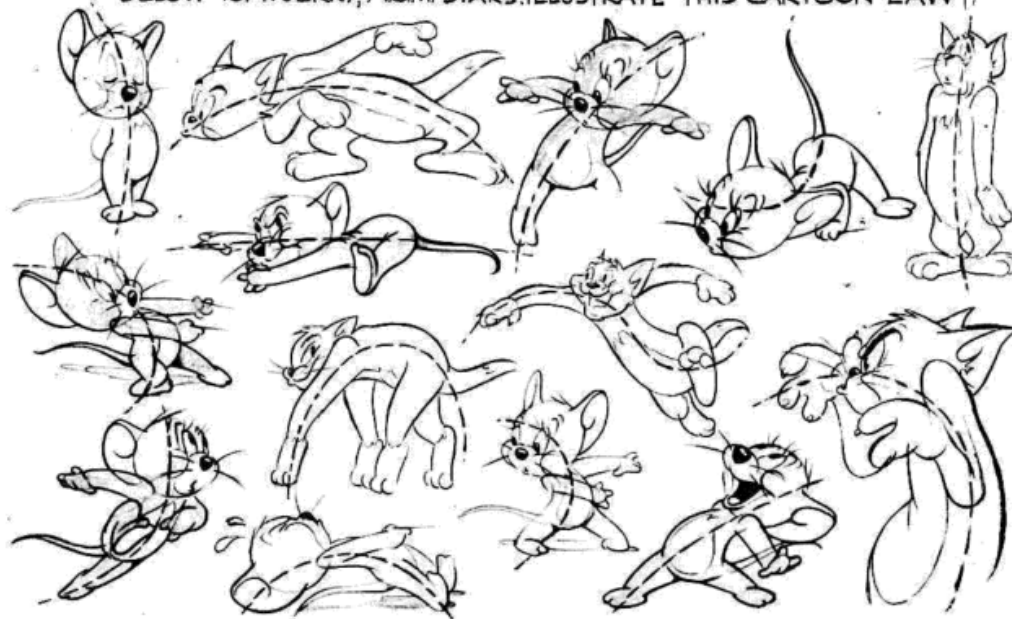


Figure 2.
The dynamic line of characters.
Source: Blair [58]

4.2.1.1. *Silhouette and Dynamic Lines*

As illustrated in Figure 2, Preston Blair, a Disney animator known for creating Pinocchio, Bambi, and Mickey Mouse, stated in *Advanced Animation* that drawing a character begins with sketching the dynamic line, followed by the image. He emphasized that the accuracy of dynamic lines enhances the character's dramatic effect [58].

As shown in Table 2, the use of silhouette and dynamic lines in character design draws heavily from traditional Chinese artistic practices, particularly calligraphy and Peking Opera facial makeup. Chinese calligraphy emphasizes the fluidity and rhythm of brushstroke [69] which translates into character silhouettes characterized by sweeping, organic curves. These lines evoke a sense of movement and grace, aligning with the Eastern aesthetic principle of "dynamic harmony" [13]. For instance, in *The Wind Guardians* [70] the protagonists' silhouettes are defined by smooth, undulating lines reminiscent of ink-wash painting, creating a visual rhythm that distinguishes them from Western animation's angular, geometric styles [56, 57]. Similarly, the stylized lines of Peking Opera facial makeup, with their bold contours and symbolic patterns, inspire dynamic facial expressions and body postures in animated characters. This fusion of traditional line art with modern animation techniques not only enhances visual appeal but also reinforces cultural identity [59].

4.2.1.2. *Color Symbolism*

As shown in Table 2, the use of color in animated character design plays a crucial role in conveying a character's personality. The dominant color, which occupies the largest proportion, serves as the base color of the character [60]. Animation character designers consider the viewer's perspective and aim to establish a shared understanding of the character's personality through color application. Additionally, different color schemes should be selected based on the character's unique traits to enhance personality expression. The choice of colors significantly influences audience perception, as different colors evoke distinct emotional responses [61, 65].

Color use in Chinese animation is deeply rooted in the traditional color system. Specific colors convey metaphorical meanings, while tonal variations help advance the storyline. Color plays both symbolic and narrative roles in Chinese animation [62, 63]. Red, gold, and cyan, for instance, carry profound symbolic meanings: red symbolizes auspiciousness, vitality, and heroism; gold represents nobility and divinity; and cyan evokes tranquility and connection to nature. These colors are strategically employed to convey character traits and thematic undertones. In *Ne Zha: Birth of the Demon Child* [31] the protagonist Nezha's red costume highlights his rebellious spirit and heroic fate. The gold decorations subtly emphasize his defiant nature, using color as a metaphor for his character. The protagonist Ao Bing has a gentler personality. His design features soft colors like blue and cyan, reflecting his calm and obedient nature [64]. Likewise, in *Big Fish and Begonia* [21] the use of red in the protagonist's costume aligns with the film's overall red color scheme. By incorporating specific cultural color symbolism, animators integrate it into character design. This allows the audience to intuitively grasp the narrative subtext and cultural values.

4.2.1.3. *Costumes and Accessories*

As shown in Table 2, costumes and accessories in Chinese animation are carefully designed and integrated. They subtly reflect history, cultural heritage, and character traits [66]. Traditional clothing, such as Hanfu, armor, and embroidery patterns, is integrated into character design. This achieves both aesthetic and narrative goals [67]. For instance, in *White Snake* [71] the female protagonist's human-form costume is inspired by Ming Dynasty court attire. It features wide sleeves, layered silk fabric, and intricate floral embroidery [6]. These details not only establish her historical context but also emphasize her elegance and resilience. Similarly, in *Chang An* [9] the integration of Tang Dynasty armor and scholar robes into character designs reinforces the film's portrayal of a diverse, hierarchical society [39, 68]. The jade pendant worn by the character in the animated film is a visual symbol representing family bonds and spiritual heritage. Accessories such as jade pendants, hairpins, and

ceremonial objects enrich the cultural depth of character design. They often symbolize social status, moral values, or narrative foreshadowing.

Some researchers explored the role of costumes in cultural expression in Malaysian animation [72]. The study emphasized that costumes are not only part of a character's appearance but also a symbol of ethnic identity and cultural values. The characters in Malaysian animation often wear traditional costumes from Malay, Chinese, Indian, and Indigenous cultures. Examples include Baju Melayu, Baju Kurung, Qipao, Tangzhuang, Saree, and Kurta. These costumes reflect the unique cultural characteristics of each ethnic group. In some cases, they are combined with modern elements to meet contemporary aesthetic preferences [73].

Furthermore, Mohd and Mustaffa [73] found that accessories in Malaysian animation have both visual and symbolic significance [73]. The colors, patterns, materials, and decorative elements of the costumes carry specific meanings. For example, Malay clothing often features soft colors and flowing fabrics to express modesty and etiquette. Chinese costumes tends to use bright colors, such as red, to symbolize good fortune. Indian costumes is known for its intricate embroidery and vibrant colors, reflecting the richness of Indian culture. Indigenous accessories may include natural materials, such as bark cloth or feather decorations, to emphasize the connection with nature [72, 73].

The silhouette, colors, and costume combinations in character design create a unified style, forming a visual link between tradition and modernity. Animators transform historical cultural elements through innovation, ensuring that characters retain cultural roots while meeting contemporary aesthetic demands [74]. This synthesis not only preserves cultural heritage but also ensures its relevance in a globalized media landscape. For instance, the fusion of Peking Opera-inspired lines with digital animation techniques in *Little Door Gods* [24]. This creative approach presents the contemporary vitality of traditional aesthetics to modern audiences. It reveals the dual value of cultural elements as both a medium for preserving history and a source of artistic innovation [75].

Based on a systematic content analysis of 19 empirical studies on cultural expression in character visual design, we developed an organizational framework. This framework highlights the relationship between different dimensions of cultural expression and character design, as shown in Figure 3. The visual design of animated characters in Chinese works is deeply intertwined with cultural expression, leveraging silhouette, color, and costume to convey identity, emotion, and narrative subtext. Fostering cross-cultural understanding while celebrating China's artistic legacy. As animation continues to evolve, cultural elements will remain essential to maintaining the uniqueness and global competitiveness of Chinese animated works.

4.2.2. *The Influence of Traditional Aesthetic Styles*

The influence of traditional Chinese aesthetic styles on animation character design is profound, offering a unique visual language. This section explores two key aspects of this influence: the application of ink wash and Gongbi painting techniques, and the integration of traditional aesthetics with modern 3D technology. These approaches not only enhance the visual appeal of animated characters but also deepen their cultural resonance, bridging the gap between historical artistry and contemporary storytelling.

4.2.2.1. *Ink Wash and Gongbi Painting*

The style of traditional Chinese painting, especially ink painting and gongbi painting, has significantly influenced the visual design of animated characters [76]. Ink painting features fluid brushstrokes and a monochromatic palette. This style is often used to create characters and environments that reflect harmony between humans and nature, which is a core theme of Chinese aesthetics. For instance, in *Deep Sea Tian* [77] the use of ink wash techniques imbues the characters with a soft, dreamlike quality, enhancing their whimsical and otherworldly nature [76]. Smooth lines and subtle ink gradients not only reflect the emotional state of animated characters but also demonstrate the fusion of traditional Chinese art with animation design.

On the other hand, Gongbi painting, known for its meticulous brushwork and vibrant colors, provides a contrasting yet complementary aesthetic. This style emphasizes precision and detail, often used to depict intricate patterns, textures, and expressions. In *White Snake* [71] the character designs incorporate Gongbi-inspired elements, such as elaborate costumes and finely rendered facial features, which highlight the characters' grace and sophistication. By blending these two painting styles, animators create a dynamic visual spectrum that ranges from the abstract and poetic to the detailed and lifelike, enriching the cultural and emotional depth of animated characters.

4.2.2.2. *Integration with 3D Technology*

Although 3D animation offers unmatched flexibility and realism, it may lose the subtle textures and organic qualities of traditional art forms. The fusion of traditional aesthetic styles with modern 3D animation technology is both an opportunity and a challenge [78]. To address this, animators have developed innovative techniques to infuse 3D character designs with the essence of traditional aesthetics. For example, in *Ne Zha: Birth of the Demon Child* [31]. The 3D character model of Nezha after transformation incorporates hand-painted textures and stylized shading. This creates a hybrid visual style that preserves the expressive qualities of traditional Chinese art [79]. This approach not only preserves the traditional Chinese cultural elements in character design but also enhances its visual appeal on a global scale [80].

Another notable example is *Big Fish and Begonia* Liang and Zhang [21] where the 3D animation is layered with ink-wash-inspired backgrounds and character designs. The interplay between the three-dimensional characters and the two-dimensional, painterly environments creates a visually striking contrast that underscores the film's thematic exploration of reality and fantasy [81]. This fusion of traditional culture and modern technology demonstrates the potential of 3D technology to reinterpret Chinese traditional aesthetics.

Despite these advancements, integrating Chinese traditional aesthetics with 3D animation remains a complex task. One major challenge is balancing technical precision with traditional artistic expression. Traditional ink painting and fine brushwork rely on an artist's intuitive control of brush and ink, which is difficult to replicate in a digital environment [28]. To overcome this, animators often employ custom shaders, texture mapping, and post-processing effects to simulate the organic textures and fluid dynamics of traditional art. Additionally, the use of motion capture and procedural animation techniques allows for the creation of dynamic, lifelike movements that complement the stylized visual designs [82].

By incorporating ink painting and fine brushwork techniques, animators have created animated characters with a traditional Chinese aesthetic and cultural resonance [76, 83]. Combining these styles with 3D technology expands creative possibilities, making animation both innovative and rich in traditional cultural style. As the animation industry continues to develop, the exploration of traditional aesthetics will remain an important area of research and practice [39, 55].

4.3. *Limitations and Future Directions of Proposed Studies*

Chahuara Escala, et al. [11] conducted a systematic literature review on semiotics and audiovisual narratives in animation from 2012 to 2022 [11]. The study found that most research came from Spain and was published in English and Spanish, showing regional and linguistic limitations. Although the study included data from multiple databases, it may have missed research in other languages and unpublished works. The research highlighted the role of animation in communication and emotional expression but did not explore semiotic representation in different cultural contexts. Future studies should expand the geographic scope and examine the impact of cultural elements on characterisation, narrative expression, and cultural transmission Chahuara Escala, et al. [11].

Xin and Thinakaran [12] conducted a systematic literature review (SLR) to analyze the development of hair and clothing animation techniques [12]. However, this study has certain limitations. First, the SLR method relies on the collection and selection of existing literature. This process may be limited by database coverage, keyword selection, and screening criteria, which could

result in the omission of key studies. Second, the study focuses mainly on the evolution of technology but lacks an in-depth discussion of fabric materials, clothing styles, and dynamic characteristics in different cultural contexts. For example, the unique structures, pleat formations, and motion characteristics of traditional clothing may present specific challenges for animation simulation. However, the study does not provide a detailed analysis of these aspects. Additionally, the study identifies challenges in interactive hair animation but does not explore how different hairstyles, hair textures, or cultural factors influence hair animation effects. Therefore, future research should expand the scope of the SLR to include more interdisciplinary and cross-cultural studies. This would enhance the diversity and applicability of hair and clothing animation [12].

The study by Jiao [31] uses a systematic review to explore the symbolic meaning of costumes in folklore animation and their key elements [31]. This study mainly focuses on defining symbolism in costumes and identifying its components. However, it does not deeply examine how costumes convey unique ethnic identity and narrative expression in different cultural contexts. For example, variations in color, patterns, and decorations across cultural systems may affect audience perceptions of characters, but the study does not systematically analyze these cultural variables. Additionally, while the study highlights the role of costumes in character development, it provides limited guidance on their practical application in animation production [13]. Therefore, future research should include empirical analysis to explore the specific use of cultural elements in animated costumes. This would help improve the cultural adaptability and narrative expression of character design in animation.

The globalization of Chinese animation raises important questions about cultural expression and audience reception. One key concept in this context is cultural hybridization, which refers to the blending of local and global elements to create a product that appeals to diverse audiences. Chinese animation often employs this strategy by integrating traditional aesthetics with universal storytelling techniques [84]. For instance, *Ne Zha: Birth of the Demon Child* [31] combines Chinese mythological themes with Hollywood-style action sequences, resulting in a film that resonates with both domestic and international viewers. This approach not only enhances the global competitiveness of Chinese animation but also fosters cross-cultural understanding [85].

Another relevant concept is cultural refraction, which examines how international audiences interpret cultural elements. As Iwabuchi [86] notes, cultural products are often refracted through the lens of local contexts, leading to varied interpretations and adaptations [86]. In 2002, Koichi Iwabuchi published *Recentering Globalization: Popular Culture and Japanese Transnationalism*. This book explores the transnational spread of Japanese popular culture, such as anime, TV dramas, and films, across Asia and other regions. It analyzes how cultural products are reinterpreted and adapted through local contexts. The book introduces concepts like "cultural odorlessness" and "refraction" in transnational cultural flows. These ideas align closely with the notion of "cultural refraction" mentioned in the discussion. For example, Iwabuchi notes that Japanese cultural products are reinterpreted by audiences from different regions based on their cultural frameworks, leading to diverse reception effects [86]. In the case of Chinese animation, cultural refraction can be observed in the way international audiences perceive and engage with traditional elements, such as the use of ink-wash aesthetics or Confucian values. While some viewers may appreciate these elements for their exotic appeal, others may interpret them through their own cultural frameworks, leading to a richer and more diverse reception.

The integration of cultural elements into animation character design, while enriching the artistic and narrative dimensions of the medium, presents several challenges and opportunities for future exploration. This chapter examines the key challenges faced by animators and researchers in this field and outlines potential directions for future research, with a focus on the evolving role of technology and audience reception.

4.3.1. Challenges in Integrating Cultural Elements

4.3.1.1. Balancing Tradition and Modernity

One of the most significant challenges in integrating cultural elements into animation is striking a balance between tradition and modernity. While traditional aesthetics and narratives provide a rich cultural foundation, they must be adapted to resonate with contemporary audiences. This requires a delicate negotiation between preserving cultural authenticity and embracing innovative storytelling techniques. For example, films like *Ne Zha: Birth of the Demon Child* [31] successfully modernize traditional myths by incorporating dynamic action sequences and relatable character arcs, but this approach risks diluting the cultural specificity of the source material. Animators must navigate this tension carefully, ensuring that cultural elements are neither oversimplified nor rendered inaccessible to modern viewers.

4.3.1.2. Risk of Cultural Misinterpretation

Another challenge lies in the potential for cultural misinterpretation, particularly in the context of globalization. As Chinese animation reaches international audiences, cultural elements may be misunderstood or misrepresented, leading to stereotypes or oversimplifications. For instance, the use of traditional symbols such as dragons or lotus flowers may be perceived as exotic or decorative rather than meaningful. This risk is compounded by the diverse cultural backgrounds of global audiences, who may lack the contextual knowledge to fully appreciate the nuances of Chinese culture. To mitigate this, animators and researchers must develop strategies for effective cultural communication, such as providing contextual cues or leveraging universal themes that transcend cultural boundaries.

4.3.2. Future Research Directions

Understanding how audiences perceive and engage with cultural elements in animation is crucial for the continued growth and global appeal of Chinese animation. Future research could investigate the factors that influence audience reception, such as cultural familiarity, aesthetic preferences, and narrative engagement. For instance, studies could examine how international audiences interpret traditional Chinese aesthetics, such as ink-wash painting or Peking Opera-inspired designs, and how these interpretations affect their overall viewing experience. Additionally, research could explore the role of cultural education and media literacy in shaping audience perceptions, providing insights into how cultural elements can be effectively communicated to diverse viewers.

The challenges and future directions outlined in this chapter highlight the complex interplay between cultural preservation, technological innovation, and audience engagement in animation. Balancing tradition and modernity, mitigating the risk of cultural misinterpretation, and leveraging emerging technologies such as AI are critical tasks for animators and researchers alike. At the same time, understanding audience reception and developing strategies for effective cultural communication will be essential for the continued success of Chinese animation on the global stage. By addressing these challenges and pursuing these research directions, the animation industry can further enhance its ability to create culturally rich, visually compelling, and universally resonant works that celebrate the diversity and depth of human culture.

5. Conclusions

This study systematically examines the application of cultural elements in Chinese animation character design, revealing their multifaceted roles in shaping visual aesthetics, narrative depth, and cultural resonance. Key findings can be summarized as follows:

First, cultural elements manifest in character design through visual, symbolic, and narrative dimensions. Traditional artistic styles such as ink wash painting, Gongbi techniques, and Peking Opera aesthetics are reinterpreted to create characters with distinct cultural identities. For instance, the fluid lines of *The Wind Guardians* [70] and the intricate costumes of *White Snake* [71] exemplify how

material culture (e.g., clothing, architecture) and non-material culture (e.g., myths, philosophical concepts) are synthesized into visual storytelling.

Second, cultural elements significantly enhance character development, world-building, and audience engagement. By embedding traditional symbols—such as the color red for heroism or jade pendants for familial bonds—animators encode cultural values into characters, fostering emotional connections with audiences. Films like *Ne Zha: Birth of the Demon Child* [31] and *Big Fish and Begonia* [21] demonstrate how cultural narratives can be modernized to address universal themes while retaining their cultural essence, thereby bridging historical traditions with contemporary relevance.

Finally, the study highlights the role of animation as a vehicle for cultural transmission and globalization. By balancing cultural specificity with universal appeal, Chinese animations like *Chang An* [9] and *Monkey King: Hero is Back* [30] have achieved both domestic success and international recognition, contributing to the global visibility of Chinese cultural heritage.

In conclusion, the integration of cultural elements into Chinese animation character design is a dynamic and evolving practice that balances tradition and innovation. By drawing on historical and artistic traditions, animators create works that celebrate cultural heritage while engaging global audiences. This study not only illuminates the artistic and cultural significance of these practices but also calls for ongoing dialogue between creators, scholars, and audiences to ensure that cultural elements continue to inspire meaningful and inclusive storytelling. As the animation industry advances, the strategic use of cultural resources will remain pivotal in shaping its artistic legacy and global impact.

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Transparency:

The authors confirm that the manuscript is an honest, accurate, and transparent account of the study; that no vital features of the study have been omitted; and that any discrepancies from the study as planned have been explained. This study followed all ethical practices during writing.

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References

- [1] Z. Mao, "Exploring the application and impact of 'artistic conception' in Chinese painting within film and television animation creation," *Rita Revista Indexada de Textos Academicos*, 2024.
- [2] W. Li, "Cultural characteristics of tang dynasty art elements in animation character design," *Screen Print*, vol. 1, pp. 89–91, 2023. <https://doi.org/10.20084/j.cnki.1002-4867.2023.01.022>
- [3] W. Peng, "A brief discussion on the expansion and application of character design thinking in multiple fields - China Knowledge Network," *Art Educ*, vol. 2, pp. 193–194, 2016.
- [4] Z. Zong, "Recommendations on the development trends of the animation industry and further increase of support efforts," *Culture and Tourism Think Tank Highlights*, 2024.
- [5] Matthew Scott, "Chinese animated films strive to expand global influence', global times," Retrieved: https://www.sohu.com/a/www.sohu.com/a/785521603_162522, 2025.

- [6] Y. Sun and J. Hua, "On strategies and effects of cross-cultural communication of chinese mythological animated films—with nezha and white snake as examples," *European Journal of Language and Culture Studies*, vol. 2, no. 6, pp. 6–14, 2023. <https://doi.org/10.24018/ejlang.2023.2.6.121>
- [7] Z. Jiao, "Ne Zha 2," 2025.
- [8] J. Chen and J. Li, "White snake: Afloat," 2024.
- [9] J. Xie and J. Zou, "Chang, an," Retrieved: [https://en.wikipedia.org/w/index.php?title=Chang%27an_\(film\)&oldid=1279436725](https://en.wikipedia.org/w/index.php?title=Chang%27an_(film)&oldid=1279436725), 2025.
- [10] L. Liu, "The contemporary value of the development of intangible cultural heritage animation," *Lecture Notes in Education Psychology and Public Media*, vol. 50, pp. 49–55, 2024. <https://doi.org/10.54254/2753-7048/50/20240855>
- [11] D. D. Chahuara Escala, C. E. Cruz Montero, D. Jacobo Morales, and M. A. Gonzales Medina, "Semiotics and audiovisual narrative in animated series and films. A systematic review of the literature between," in *Proceedings of the 21th LACCEI International Multi-Conference for Engineering, Education and Technology (LACCEI 2023): "Leadership in Education and Innovation in Engineering in the Framework of Global Transformations: Integration and Alliances for Integral Development"*, in 8, vol. 1. Latin American and Caribbean Consortium of Engineering Institutions, 2023 <https://doi.org/10.18687/LACCEI2023.1.1.313>, 2012.
- [12] N. H. Xin and R. Thinakaran, "Methods, improvement and challenges on cloth and hair animation," *J. Theor. Appl. Inf. Technol.*, vol. 101, no. 5, pp. 1680–1689, 2023.
- [13] M. N. A. Sani and N. S. M. Sin, "Development of character costume symbolism in animation folklore: A systematic review," *Opportunities and Risks in AI for Business Development: Volume 1*, pp. 485–495, 2024.
- [14] D. J. Cook, C. D. Mulrow, and R. B. Haynes, "Systematic reviews: synthesis of best evidence for clinical decisions," *Annals of internal medicine*, vol. 126, no. 5, pp. 376–380, 1997.
- [15] D. Andreini, C. Bettinelli, D. Andreini, and C. Bettinelli, "Systematic literature review," *Business Model Innovation: From Systematic Literature Review to Future Research Directions*, pp. 1–23, 2017.
- [16] M. J. Leseure, J. Bauer, K. Birdi, A. Neely, and D. Denyer, "Adoption of promising practices: a systematic review of the evidence," *International Journal of Management Reviews*, vol. 5, no. 3–4, pp. 169–190, 2004.
- [17] M. Petticrew and H. Roberts, *Systematic reviews in the social sciences: A practical guide*. Wiley. <https://doi.org/10.1002/9780470754887>, 2006.
- [18] Nikolaos, Doulamis, A. Doulamis, C. Ioannidis, M. Klein, and M. Ioannides, "Modelling of static and moving objects: Digitizing tangible and intangible cultural heritage," *Mixed Reality and Gamification for Cultural Heritage*, pp. 567–589, 2017. https://doi.org/10.1007/978-3-319-49607-8_23
- [19] G. Swensen, G. B. Jerpåsen, O. Sæter, and M. S. Tveit, "Capturing the intangible and tangible aspects of heritage: Personal versus official perspectives in cultural heritage management," *Landscape Research*, vol. 38, no. 2, pp. 203–221, 2013.
- [20] G. Hansen, "Intangible cultural heritage and the better angels of folklore's nature," *International Journal of Heritage Studies*, vol. 22, no. 8, pp. 622–634, 2016.
- [21] X. Liang and C. Zhang, "Big fish and begonia," 2016.
- [22] D. Wang, "Dreaming fish, becoming fish: Animating modern mythology and zhuangzian philosophy in the fantasy film big fish & begonia," *Journal of Chinese Film Studies*, vol. 4, no. 2, pp. 369–391, 2024.
- [23] J. Xu, "The artistic design of chinese film and television animation characters—the aesthetics of semiotic and realistic re-creation," presented at the In 7th International Conference on Arts, Design and Contemporary Education (ICADCE 2021) (pp. 575–578). Atlantis Press, 2021.
- [24] W. W., "Little door gods," Retrieved: <https://zh.wikipedia.org/w/index.php?title=%E5%B0%8F%E9%97%A8%E7%A5%9E&oldid=78048231>, 2017.
- [25] J. Chen and S. Wang, "The modern representation of folk culture in Chinese animated films—from the little door god," *Movie Rev*, vol. 14, pp. 92–97, 2023. <https://doi.org/10.16583/j.cnki.52-1014/j.2023.14.022>
- [26] C. Di and S. Kang, "Study on the application of peking opera sign in the creation process of character animation under semiotics," presented at the International Conference on Computer-Aided Industrial Design & Conceptual Design, Nov. 2009, pp. 1768–1773. <https://doi.org/10.1109/CAIDCD.2009.5375283>, 2009.
- [27] X. Zhang, "Research on the image creation of chinese traditional mythological characters in animated characters', chengdu university," Retrieved: https://www.cnki.net/KCMS/detail/detail.aspx?dbcode=CMFD&dbname=CMFD202301&filename=1022659732.nh&uniplatform=OVERSEA&v=6TdDZiU_LiWcNxdZwo-wDPm53xSD9TLvnonUDsKtvp4l7l1W1ew7lHZnMdArypG, 2022.
- [28] W. Zhang *et al.*, "Computational approaches for traditional Chinese painting: From the "six principles of painting" perspective," *Journal of Computer Science and Technology*, vol. 39, no. 2, pp. 269–285, 2024.
- [29] J. Xu, "The transformation of sun wukong's heroic image: from the legend of "haunted heavenly palace" to animated films', Northern nationalities university," Retrieved: https://chn.oversea.cnki.net/KCMS/detail/detail.aspx?dbcode=CMFD&dbname=CMFD202402&filename=1024405927.nh&uniplatform=OVERSEA&v=fpIrXL_BAmTb6tcpjXPVDqxoBz11-WoZheH_QqD5RFNNxsrInd43cUXpTvwwJv8FJ, 2024.

- [30] X. Tian, "Monkey king : Hero is back," 2015.
- [31] Z. Jiao, "Nezha: Birth of the demon child," 2019.
- [32] H. Chen, "On the application of traditional chinese culture in animation character design," *Art Des*, vol. 7, no. 1, p. 33, 2024. <https://doi.org/10.31058/j.ad.2024.71005>
- [33] J. Zheng, "NE ZHA: A remodeling strategy of the oriental mythological prototype," 2019.
- [34] L. Xiao and H. S. Lee, "Kansei image study of animation characters: Ne Zha," *International Journal of Asia Digital Art and Design*, vol. 24, no. 2, pp. 15–21, 2020.
- [35] Y. Yang and M. Zheng, "The value and application of digital media art in film and television animation," *Media Forum*, vol. 15, no. 16, pp. 64–66, 2022.
- [36] H. Hao, "Research on traditional painting elements in character animation modeling of Chinese myths and legends", Northwest University, Retrieved: https://www.cnki.net/KCMS/detail/detail.aspx?dbcode=CMFD&dbname=CMFD201301&filename=1012444169.nh&uniplatform=OVERSEA&v=f9VM8IvyG25G6D_Y209hstAfHL1_VbZzfF3sipalwsGD63lOBEPY-oIFFNngz56Fs, 2024.
- [37] N. Shen and J. Xiong, "The influence of time and cultural context on characterisation of animated characters," *J. News Res*, vol. 6, no. 10, 2015.
- [38] X. Liu and H. Pan, "The path of film and television animation creation using virtual reality technology under the artificial intelligence," *Scientific Programming*, vol. 2022, no. 1, p. 1712929, 2022.
- [39] L. Xu and J. Chung, "A study of the visual expressions of traditional culture in the 3d animation chang'an', int. j. adv. smart converg," vol. 13, no. 2, pp. 136–141, 2024. <https://doi.org/10.7236/IJASC.2024.13.2.136>
- [40] W. Xu, "The use of traditional cultural resources in animated films--taking "30,000 leagues in chang'an" as an example," *Delta*, vol. 3, p. 34, 2024.
- [41] W. Wang, "A narrative study of the animated film chang an under the threshold of cultural memory," *Comedy World*, vol. 12, pp. 106–108, 2024.
- [42] S. Shen, "A study of the visual narrative of colour in a combined 2D animated and live action film', Communication University of China," Retrieved: <https://chn.oversea.cnki.net/KCMS/detail/detail.aspx?dbcode=CMFD&dbname=CMFDTEMP&filename=1024681455.nh&uniplatform=OVERSEA&v=b776N8F7stFa4-NnMN3pqOQu7sV8CbRyvZLQeVdPZHUF3fr5Xg5zBk73EEi1y1>, 2024.
- [43] X. Yang, "Key factors affecting the effectiveness of animated representations of information visualisations," *ZhuangShi*, vol. 1, pp. 114–117, 2018. <https://doi.org/10.16272/j.cnki.cn11-1392/j.2018.01.027>
- [44] P. Sun and Z. Yang, "Changes in the image of the monkey king in animated films of different eras," *Movie Rev*, vol. 20, pp. 82–85, 2024. <https://doi.org/10.16583/j.cnki.52-1014/j.2020.20.022>
- [45] Q. Wang and B. Zhou, "On the aesthetic value of traditional culture and its influence in domestic animated films--taking the animated film "big fish begonia" as an example," *J. Jiangsu Univ. Sci. Ed*, vol. 4, pp. 17–21, 2018. <https://doi.org/10.13317/j.cnki.jdskxb.2018.040>
- [46] L. Shang, "The application of chinese traditional culture in the animation scene design," in *Proceedings of the 2015 2nd International Conference on Education, Language, Art and Intercultural Communication, Kaifeng, China: Atlantis Press*, 2016. <https://doi.org/10.2991/icelaic-15.2016.131>, 2015.
- [47] S. Wu and W. Wang, "A study on the reconstruction of cultural confidence in Chinese animation," in *Proceedings of the 4th International Conference on Culture, Education and Economic Development of Modern Society (ICCESE 2020), Moscow, Russia: Atlantis Press*, 2020. <https://doi.org/10.2991/assehr.k.200316.065>, 2020.
- [48] Y. Hou, "Narrative strategies and audiovisual language analysis of intangible cultural heritage animation," *MINGRIFENGSHANG*, vol. 21, pp. 155–157, 2023.
- [49] J. Xue, "Narrative strategies and characterisation of chinese animated films - a review of research on the current situation of Chinese animated film creation and distribution methods', contemp. Cine., no. 11," Retrieved: https://chn.oversea.cnki.net/KCMS/detail/detail.aspx?dbcode=CJFD&dbname=CJFDLAST2023&filename=DDD Y202311030&uniplatform=OVERSEA&v=G2lq9aPkmrq7Y_uWJNUJnQcMvc1di1B2QAGK77fGRI1GpjXlrXSgHmpgRddAu8vW, 2015.
- [50] C. Han and X. Yu, "Multiple expressions of Chinese excellent traditional culture in animation film and television works," *Movie Rev*, vol. 4, pp. 90–95, 2024. <https://doi.org/10.16583/j.cnki.52-1014/j.2024.04.016>
- [51] J. Yuan, "The expression of Chinese traditional aesthetic thought in domestic animated films', media forum," Retrieved: <https://chn.oversea.cnki.net/KCMS/detail/detail.aspx?dbcode=CJFD&dbname=CJFDAUTO&filename=CMLT202503018&uniplatform=OVERSEA&v=zjZ3zRORnz-QM0RlyOPO3x6DJ031pKghqQ-aXzkvr2kKlzR22q1B9agJtNzTeLt>, 2025.
- [52] X. Xu, *Coherent 3D line drawings for stylized animation*. Nanyang Technological University. <https://doi.org/10.32657/10356/67029>, 2016.
- [53] X. Gu, "Study on the modernity of character design in mythical animation films," *Highlights in Art and Design*, vol. 2, no. 3, pp. 94–97, 2023.

- [54] X. Gao and Z. Li, "Discussing on the traditional Chinese elements and animation design," in *In Proceedings of the 2010 International Conference on Information Technology and Scientific Management (Vol. 1, pp. 11-17)*, 2010.
- [55] Y. Zhu, "Research on the application of Chinese folk art patterns in animation design," *International Technical Management*, vol. 2, no. 3, 2017.
- [56] Y. Ling and D. A. Ghani, "The fusion of ink painting techniques in traditional Chinese animation," *Asian Journal of Research in Education and Social Sciences*, vol. 6, no. 4, pp. 390-396, 2024.
- [57] S. Ye, "A study of traditional culture-based animation symbols in the context of intercultural communication," presented at the In International Conference on Human-Computer Interaction (pp. 202-212). Cham: Springer International Publishing, 2022.
- [58] P. Blair, "Advanced animation," *Ripol Classics*, 1949.
- [59] J. Zhao, "Research on 3D animation processing technology in modern art design system," presented at the In Journal of Physics: Conference Series (Vol. 1856, No. 1, p. 012052). IOP Publishing, 2021.
- [60] S. Alieva, "The language of colour in character design," 2023.
- [61] E. Fredriksson, "Combining shape, color and postures for ambiguous character roles," Retrieved: <https://urn.kb.se/resolve?urn=urn:nbn:se:uu:diva-327036>, 2017.
- [62] L. Jiang, "Expression of emotion and art in film and television animation from the perspective of color psychology," *Psychiatra Danubina*, vol. 34, no. suppl 5, pp. 69-69, 2022.
- [63] M. Zhu, "The use of colour in animation character modelling," *Audio Video Prod*, vol. 2, pp. 92-95, 2023.
- [64] Z. Li, "Research on the application of traditional Chinese decorative elements in animation character design - China knowledge network', Harbin Normal University," Retrieved: <https://chn.oversea.cnki.net/KCMS/detail/detail.aspx?dbcode=CMFD&dbname=CMFD202202&filename=1022454594.nh&uniplatform=OVERSEA&v=Zw4bSbk6rhhbgMcf5AXLr3Lnlz4Z7vKYrs9XgYFDPdETnL6rZy9m3j5x6BSRE0y>, 2021.
- [65] M. M. Islam, H. M. Adnan, M. A. M. Omar, and N. Akter, "Meaning of the colors in the portrayal of the animated characters: a structuralist-semiotic content Analysis of Tom and Jerry," *Jurnal Pengajian Media Malaysia*, vol. 19, no. 1, pp. 43-56, 2017.
- [66] Y. Cao, B. Qi, and Q. Zhou, "Research on the application of tibetan costume elements in cg animation creation," in *Proceedings of the 6th International Conference on Digital Signal Processing, in ICDSP '22. New York, NY, USA: Association for Computing Machinery, Jun. 2022, pp. 78-84. https://doi.org/10.1145/3529570.3529584*, 2022.
- [67] D. Zhu and N. Rattanachaiwong, "The narrative connotation of fashion elements in animation performances under the visual symbolic threshold," presented at the National and International Conference on Humanities and Social Sciences, Bangkok, Thailand, 2024.
- [68] W. Guo, "The oriental aesthetic conception in the animated film chang an," *Research and Commentary on Humanities and Arts*, vol. 2, no. 5, 2024. <https://doi.org/10.18686/rcha.v2i5.4562>
- [69] W. Fanghua, H. Harun, and N. Ibrahim, "Comparison Analysis on the Aesthetics of the Monkey King Character in Chinese Animated Films," *International Journal of Business and Technology Management*, vol. 6, no. S3, pp. 134-144, 2024.
- [70] K. Liu, "The wind guardians," Retrieved: <https://zh.wikipedia.org/w/index.php?title=%E9%A3%8E%E8%AF%AD%E5%92%92&oldid=82489353>, 2018.
- [71] J. Huang and J. Zhao, "White snake," 2019.
- [72] M. A. M. Omar and M. S. A. Ishak, "Understanding Malaysian animation characteristics: A structuralist-semiotic analysis on Malaysian animation series," *Jurnal Pengajian Media Malaysia*, vol. 16, no. 1, pp. 25-37, 2014.
- [73] K. Mohd, F and N. Mustafa, "Cultural inspirations towards Malaysian animation character design," *Malaysian Journal of Communication*, vol. 33, no. 1, pp. 487-501, 2017.
- [74] N. Shao, J. A. Berton, J. Fernsler, and C. Sauro, "Understanding cultural fusion as a concept to decode animated character visual design," Master of Science, Drexel University, Philadelphia, Pennsylvania, United States, 2016. <https://doi.org/10.17918/etd-6868>, 2016.
- [75] L. Jingwen, "A study of communication modes and aesthetics in the development of Chinese animation," *Frontiers in Art Research*, vol. 5, no. 13, pp. 93-97, 2023. <https://doi.org/10.25236/FAR.2023.051317>
- [76] B. Guo, X. Shan, and J. Chung, "A research of ink and wash elements on the 3d animation film," *International Journal of Internet, Broadcasting and Communication*, vol. 15, no. 3, pp. 82-87, 2023. <https://doi.org/10.7236/IJIBC.2023.15.3.82>
- [77] X. Tian, "Deep sea," Retrieved: [https://zh.wikipedia.org/w/index.php?title=%E6%B7%B1%E6%B5%B7_\(%E9%9B%BB%E5%BD%B1\)&oldid=86319533](https://zh.wikipedia.org/w/index.php?title=%E6%B7%B1%E6%B5%B7_(%E9%9B%BB%E5%BD%B1)&oldid=86319533), 2023.
- [78] Y. Guo, "Innovative digital applications of traditional art forms in animation creation," *Art Panor*, vol. 12, p. 194, 2011.
- [79] S. Shuo, "The manifestation of animation and the reform of animation teaching in digital media era," *Advances in Vocational and Technical Education*, vol. 3, no. 2, pp. 92-97, 2021. <https://doi.org/10.23977/avte.2021.030218>
- [80] X. Wang and N. B. M. Bakhir, "Exploring the impact of the Nezha phenomenon on china generation z's cultural identity," *Educ. Adm. Theory Pract*, vol. 30, no. 5, pp. 10445-10454, 2024. <https://doi.org/10.53555/kuey.v30i5.4768>

- [81] S. Li, B. Liu, and X. He, "Prospect analysis of hand-drawn animation under digital technology'," in *Proceedings of the 2018 4th International Conference on Social Science and Higher Education (ICSSHE 2018)*, Sanya, China: Atlantis Press, 2018. <https://doi.org/10.2991/icsshe-18.2018.183>, 2018.
- [82] M. C. Wibowo, S. Nugroho, and A. Wibowo, "The use of motion capture technology in 3D animation," *International Journal of Computing and Digital Systems*, vol. 15, no. 1, pp. 975-987, 2024. <https://doi.org/10.12785/ijcds//150169>
- [83] X. Li and Y. Huang, "Rendering and presentation of 3D digital ink landscape painting," *Preprints*, 2023. <https://doi.org/10.22541/au.169057803.33673298/v1>
- [84] W. Wu, *Chinese animation, creative industries, and digital culture*. New York Routledge, 2017.
- [85] Animation in postsocialist China, "Animation in postsocialist China: Visual narrative, modernity, and digital culture," Doctoral Dissertation, City University of Hong Kong, 2006.
- [86] K. Iwabuchi, *Recentring globalization: Popular culture and japanese transnationalism*. Duke University Press, 2022.