

A Study on the Restoration and Innovative Application of Traditional Costumes in the Confucius Museum

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Abstract: *In this paper, we take the traditional costumes of the Confucian House as the research object and systematically discuss the four aspects of its historical evolution, style characteristics, cultural connotation, and restoration practice. Through the in-depth evidence of the 'Daming Huidian', 'Huangming Zuyun', and other canonical books, combined with the analysis of the form and pattern interpretation of the objects in the collection, this paper explores the functional position and cultural significance of the dress system in the Ming society, and further analyses its multiple values in the material technology, aesthetic performance, and patriarchal etiquette. In terms of restoration practice, this paper summarises the restoration path of the Confucius Museum based on the trinity of science and technology, traditional craftsmanship, and digital means, highlighting its innovative significance in cultural heritage preservation, craftsmanship inheritance, and contemporary cultural dissemination. The study concludes that as a visual symbol of Chinese ceremonial civilization, the Confucius costume is a key medium for the creative transformation and contemporary expression of traditional culture, and also provides a deep foundation for the construction of national cultural identity.*

Keywords: Confucius Museum; Traditional costumes; Confucian culture; Costume restoration; Cultural heritage preservation.

1. INTRODUCTION

As an important carrier of Chinese civilization, traditional dress not only embodies the institutional system and ritual norms of ancient Chinese society but also condenses deep historical memories and cultural symbols. In traditional Chinese culture, clothing is not only about the confirmation of individual identity but also carries the transmission of the national system, ethical order, and spiritual values. As a material expression of etiquette and civilization, traditional dress has carried and mapped out the aesthetic ideals, moral concepts, and logic of ancient Chinese society in the evolution of time and space, and it is an indispensable gateway to an in-depth understanding of Chinese culture.

A large number of traditional costumes of the Ming Dynasty collected by the Confucius Museum mainly originated from the ceremonial crowns used by the Confucius family for generations, which have high historical, cultural, and artistic values. These costumes are not only the physical evidence of the Confucian clan's fulfillment of its ritual obligations under the court's institutional arrangement but also the visual embodiment of the social operation and cultural identity mechanism of the ancient ritual system. Especially from the beginning of the Ming Dynasty, Hongwu three years after Zhu Yuanzhang restored the title of 'Diffractive Sage' and given the treatment of the third-ranking ministers, the Confucian dress system was formally incorporated into the national ceremonial system, the shape of its crown, pattern, and rank configuration are strictly in accordance with the 'Daming Huidian,' 'Huangming Ancestral Tradition,' and other official canonical norms, to achieve the system of legalization, standardization and ritualization. It can be said that the traditional dress of the Confucian House is an important symbol of the institutional confirmation of the status of Confucianism by the central regime of the Ming Dynasty, and it is the key medium through which the spirit of Confucianism can be solidified and disseminated in visual form.

This batch of clothing objects, from official clothes, and public clothes to special dresses used in the spring and autumn sacrifices, weddings, funerals, and other ceremonies, not only in the use of color, pattern design, fabric selection, and sewing technology to show the high standard of craftsmanship and etiquette regulations of the Ming Dynasty, but also contains a wealth of cultural symbols. For example, the common 'white crane patch' is not only an indication of official rank, but also a symbol of high moral integrity; the cloud shoulder, group life, and bat motifs are not only decorative patterns but also imply good fortune, health and virtue for generations to come. In addition, the choice of colors, such as black to symbolize authority and red to reflect solemnity, have their own clear ceremonial semantics. These norms not only provide an empirical basis for understanding the dress system of

the Ming Dynasty but also reveal the embodiment of Confucianism's idea of 'transforming people by rituals' at the level of material culture.

In terms of historical evolution, the Confucian dress shows the development path of 'inheritance - standardization - beautification'. From the early inheritance of the old system of Song and Yuan to the formal establishment of the crown system during the Yongle period, to the further enhancement of the material and artistic expression of the dress in the middle and late Ming period, its evolution not only reflects the solid position of the Kong family in the political and cultural structure of the country, but also embodies the trend of the Ming Dynasty, which tended to be more and more complete and refined in the system of etiquette. Even in the context of political turmoil and the decline of imperial power in the late Ming Dynasty, the Confucius family still followed the ancestral system of preparing their own dresses and maintaining the rigorous operation of sacrificial rituals, which demonstrated the Confucius family's high degree of consciousness of the inheritance of ritual culture.

As an important physical witness of ancient ritual culture, the Confucian dress system not only has research value in institutional history and art history but also assumes a unique role in cultural dissemination and social memory. In today's cultural heritage protection and national identity construction, these costumes have been given new vitality and practical significance. The restoration of traditional costumes carried out by the Confucius Museum in recent years is precisely a cultural regeneration practice carried out in this context. Through systematic documentary evidence, scientific physical testing, the revival of traditional crafts, and the aid of digital technology, the restoration team not only reproduces the visual form of the costumes, but also endeavors to restore the institutional logic and cultural spirit behind them, transforming the traditional costumes from a static legacy into a dynamic cultural asset, and highlighting the vitality and inheritance potential of the outstanding traditional Chinese culture.

Therefore, an in-depth discussion of the historical evolution, style characteristics, cultural connotation, and restoration practice of the traditional costumes of the Confucius Museum not only helps to clarify the development of the traditional Chinese ceremonial dress system, but also provides theoretical support and practical experience for the protection of cultural heritage, the revival of traditional crafts and cultural innovation, promotes the creative transformation and innovative development of traditional culture, and realizes the contemporary expression and international dissemination of Chinese culture. International dissemination of Chinese culture.

2. HISTORICAL AND CULTURAL CONNOTATION OF TRADITIONAL COSTUMES IN CONFUCIUS MUSEUM

2.1 Historical Evolution of Traditional Costumes in the Confucius Museum

The origin of the traditional costumes in the Confucius Museum can be traced back to the third year of Hongwu (1370), when Zhu Yuanzhang, the first emperor of the Ming Dynasty, restored the title of 'Duke of Diffractive Sage', which was not only marked the formal incorporation of the Confucian family into the national ceremonial system but also established the starting point for the legalization of the Confucian dress system. Zhu Yuanzhang granted 'Diffractive Sage Gong' the treatment of the third-ranking civil servant, followed by the matching award of the crown also according to the specifications of the third-ranking civil servant, reflecting the Ming regime of Confucianism's orthodox status of respect and institutionalized support.

Early Ming Dynasty, the Confucian dress in the Song and Yuan legacy system on the basis of inheritance, and the clothing system with the characteristics of the early Ming Dynasty. During this period, light materials such as yarn, silk, and Luo were commonly used, and the structure embodied features such as broad shoulders and wide sleeves, round-necked robes, and overlapping right lapels, and the dress hierarchy was initially formed. During the Yongle period, the 'Daming Huidian' clearly regulated the form of the Kong Clan's crown and costume, which institutionalized and ritualized the Kongfu's ceremonial costume system, and established a parallel costume system of public service and spring and autumn ceremonial service.

In the middle and late Ming Dynasty, Confucian costumes gradually evolved in the direction of gorgeousness and aesthetics. During the Hongzhi and Jiajing periods, with the further consolidation of the Kong family's status, the costumes were significantly enhanced in terms of material and craftsmanship, with the extensive use of high-level craftsmanship such as make-up flowers, gold weaving, and natron brocade. For example, during the Jiajing period, the 'reddish-red colored flower-adorned python robe' not only incorporated elements of the royal dress system but also maintained the Confucian dignified and stable style, reflecting a high degree of unity between etiquette and

aesthetics. In the late Ming period, despite the political turmoil that led to a reduction in the number of clothes given by the imperial court, the Confucian family still set up their own crowns in accordance with the ancestral system to ensure that etiquette was not abrogated. In terms of style, there was also a tendency to integrate folk aesthetics with traditional norms, such as the emergence of new styles such as the dark-red-coloured embroidered cloud shoulder and the double-layered, narrow-sleeved ceremonial robes, which demonstrated the diversification of dress styles and regional transformations.

The Confucius Family has attached great importance to the preservation and inheritance of costumes for many generations, which has enabled a large number of Ming costumes to be preserved intact and become a precious collection of the Confucius Museum, and has also provided evidence for the ritual culture of the Ming Dynasty. Its evolution can be summed up in the three stages of 'inheritance - institutionalization - aestheticization', which fully reflects the central position of the Confucian House in the transmission of Confucian culture and the construction of the national ritual system.

2.2 Stylistic Features of Traditional Costumes in the Confucius Museum

The traditional costumes in the Confucius Museum are rigorous, mainly originating from the normative dress practices of the 'Duke Diffraction' family in official duties, ceremonies, and family rituals, reflecting the high degree of unity in the form system, the symbolism of decorations, color grades, and craftsmanship level.

The form system is rigorous. The form and system of the Confucian dresses strictly follow the classical norms of the Da Ming Hui Dian, the Huang Ming Zu Xun and the Rites of Passage, showing a high degree of programme and functionality. The main categories include regular clothes, public clothes, sacrificial clothes, and wedding and funeral dresses. Regular clothes, such as the round-collar robe, are structured with overlapping right lapels, round collars, straight sleeves, and slits on both sides, which is exemplary in its practicality; public clothes are mostly patchwork clothes, with square patches embroidered with patterns of birds, which symbolise the official's rank and Confucian virtues; and ceremonial clothes, such as Xuan Duan and Shamyi, pay attention to the body's broadness and the neatness of the sleeves, which embodies the 'solemnity and solemnity' of the Confucian ceremonial aesthetics.

The decoration has far-reaching meanings. The decoration of the Confucius House follows the system of the Ming Dynasty and mainly adopts the patterns of cranes, geese, mandarin ducks, and other birds of prey, which correspond to the different ranks of the officials and symbolize the virtue and cultivation of the people. For example, the 'white crane patch', which is reserved for officials of the third grade, frequently appears in the official uniforms and sacrificial dresses of the Confucius Family, reflecting their honorable status. In addition, the common cloud pattern, bats, lotus flowers, group longevity, and other auspicious motifs in the costumes not only have a sense of decorative beauty but also carry the cultural meaning of praying for blessings and good fortune, cultivating one's body and family, reflecting the Confucian spirit of 'rites to carry the Tao'.

Colour hierarchy. The color system of the Confucius House costumes strictly follows the Ming Dynasty's ritual principle of 'correct colors are fixed'. Different types of costumes and occasions were adopted in the colors of reddish-red, dai-blue, black, greenish-rock, ochre-yellow, etc., reflecting the hierarchical order and the spirit of aesthetics. For example, reddish-red is often used in birthday ceremony costumes, symbolizing solemnity and solemnity; dai blue and stone green are mostly used in regular clothes, expressing calmness and uprightness; black and ochre are used in major ceremonies, implying the concept of authority and neutrality. In addition, the use of auxiliary colors such as white piping, gold, and silver threads, colourful ribbons, etc., also enhances the visual level and aesthetic character.

The craftsmanship is exquisite. Kongfu costumes are mostly made of high-grade materials such as Jiangnan tribute fabrics, such as flower yarn, tribute satin, gold silk ground, atrium, etc. The weaving technology integrates traditional techniques such as pan gold embroidery, entanglement embroidery, flower brocade, woof, etc., with fine stitches and three-dimensional patterns, which reflect the high level of skills of 'conveying the spirit of God with needles', 'shaping the shape of the thread', etc. The needlework is very delicate and the patterns are three-dimensional, reflecting the superior skills of 'conveying the spirit with needles' and 'forming with threads'. Sewing is often used in 'dark sewing', 'fine sewing', and other delicate work methods, making the clothing structure strong, with regular pattern, texture, and warmth, focusing on displaying the high level of craftsmanship in the Ming Dynasty and the ideals of Confucianism and aesthetics.

2.3 The Cultural Connotation of Traditional Costumes of Confucius Museum

The traditional costumes of Confucius House not only have the physical value of rites, but also carry deep cultural connotation and ideological value, and their cultural implication is mainly reflected in the following four aspects.

Institutional expression of the idea of etiquette. The Confucian dress is centered on the principle of 'no overstepping of etiquette and customized rituals', reflecting the strictness and hierarchical order of the Confucian etiquette system. The dress code is not only a symbol of personal status but also an extension of the national system of etiquette, which is an important means for the Ming Dynasty state to build political order and cultural identity through the ritual of clothing. As a symbol of Confucian orthodoxy, the Confucius House became a bridge between the implementation of the system and the dissemination of culture.

It is the symbolic medium of Confucian moral education. Confucius emphasized the importance of 'correct clothing and color', implying the role of dress code in shaping moral cultivation. In terms of colors, structures, and patterns, the costumes of the Confucian House fully display the Confucian ideological view of the 'inner saint and outer king'. For example, the solemnity embodied in the Xuan Duan and the deep clothes, and the purity and introspection symbolized by the white crane, lotus flower, and other totems are all achieved through the visualization of the moral education function of 'form in the outside and transform in the inside', which embodies the in-depth care of Confucianism on the norms of behavior and the cultivation of the heart.

Identity mechanism of patriarchal culture. As a symbol of family identity and pedigree, the Confucian dress plays an important role in clan identity and cultural transmission in the family ritual system. Whenever the Confucius Ceremony is held, the wearing of the XuanDuan deep clothes becomes the collective remembrance and cultural reappearance of the Confucius family to the holy ancestor Confucius and builds a family ritual community centered on the bloodline. This identity based on the form of a dress not only strengthens the continuity of the Confucius clan but also embodies the Confucian ethical spirit of 'rites of passage to adulthood'.

Symbolic expression of Chinese culture. In the context of national rituals and education, the Confucian dress has gradually risen from a family symbol to a symbol of national etiquette and national spirit, and its institutionalization, optimization, and aestheticization have made it an important visual symbol of Chinese cultural identity. In contemporary society, the Confucian costume frequently appears in national education, cultural exhibitions, and international exchanges, becoming an important medium for the revival and dissemination of the excellent traditional Chinese culture, highlighting its symbolic function beyond the historical objects.

3. RECOVERY TECHNOLOGY AND PRACTICE OF TRADITIONAL COSTUME IN CONFUCIUS MUSEUM

3.1 Research and Application of Restoration Technology

The restoration of traditional costumes is not only a superficial reproduction of the appearance of ancient costumes, but also a systematic and comprehensive cultural reconstruction project, which covers multiple dimensions such as historical literature evidence, physical technology analysis, traditional craft reproduction, and digital technology integration. In the field of restoration of traditional costumes, the Confucius Museum, relying on its profound Confucian cultural deposits and advantages in documentary resources, has gradually built up a set of restoration technology systems that is systematic, refined, technological, and multifaceted, demonstrating a high degree of professionalism and foresight in the protection and regeneration of cultural heritage.

First of all, documentary evidence is the theoretical basis of restoration, throughout the entire technical system. The Ming Dynasty was one of the most perfect dynasties in ancient China in terms of ritual system, and canonical documents such as the Ming Huidian, the Daming Huidian, the Rites of Passage, and the Kongfu Archives and the Family Rites of the Kongfu, which were owned by the Kongfu, provided a clear and detailed historical basis for the types of costumes, grades, systems, and regulations on the wearing of ornaments. On this basis, through the systematic combing, comparison, and image analysis of the literature, the researchers have established a costume restoration atlas, which accurately locates the style, color, pattern, ornaments, and ceremonial functions of the costumes, so as to ensure that the restoration work is historically true and systematically rigorous.

Secondly, the scientific analysis of physical artifacts is the key link to enhancing the accuracy and objectivity of the restoration. For the surviving fragments of ceremonial costumes, patches, crowns, hats, ornaments, and other primitive costume remains, Confucius Museum widely adopts high-precision instruments and equipment for

non-destructive testing and material analysis, such as three-dimensional laser scanning technology, infrared spectroscopy (FTIR), X-ray fluorescence spectrometry (XRF), and scanning electron microscopy (SEM), etc. The above techniques can deeply obtain the fabric tissue and structure, and also help the restoration work to ensure historical authenticity and institutional rigor. The above technologies can deeply obtain micro information such as fabric structure, raw material type, weaving method, and dye composition, providing reliable data support for material reconstruction, color restoration, and structural modeling of costumes.

In the reconstruction of traditional skills, the Confucius Museum upholds the concept of 'skill revival', and has joined hands with representative items of national intangible cultural heritage, such as Nanjing Yunjin, Suzhou Suzhou embroidery, woof weaving and Panjin embroidery, etc., to set up a restoration program through the 'master-apprentice' apprenticeship system and the workshop system. Through 'master-apprentice' apprenticeship, workshop system, practical training courses, etc., a platform for the inheritance of restoration crafts has been built. Through the collaboration between university research teams and folk artists, the whole process of manual operation from pattern drawing, fabric production, and embroidery to garment sewing is realized, so that costume restoration can be operable and sustainable on the basis of following ancient techniques.

In addition, the Confucius Museum also explores the integration of digital technology into the restoration process to promote the expansion of costume restoration in the contemporary context. For example, computer-aided design (CAD), digital embroidery equipment, augmented reality (AR) technology for virtual display, the use of lightweight fabrics, three-dimensional tailoring, and other modern technology to optimize the wearing experience, thereby expanding the costume restoration of the exhibition in the performance, public education, cultural creativity and other areas of multi-scene applications. This experimental path of restoration and innovation in parallel, so that the traditional costumes from static cultural relics into dynamic cultural carriers.

More importantly, the Confucius Museum is committed to building a set of standardized, process-oriented, and sustainable restoration systems. The system includes the whole chain of process management from literature retrieval, physical analysis, and process selection to material verification, process control, quality assessment, etc., to ensure the standardization and scientificity of the restoration process. At the same time, relying on the digital archive platform and database construction, it realizes long-term preservation and cross-regional sharing of restoration data and enhances the collaborative efficiency and academic exchange capacity of the protection of costume cultural heritage.

3.2 Restoration Research on Materials and Techniques

The historical authenticity of traditional costumes is not only reflected in the restoration of their appearance but also in the reconstruction of their material texture and production techniques. In the process of restoring the ceremonial costumes of the Ming Dynasty (e.g. ceremonial costumes and official costumes), Confucius Museum has always adhered to the restoration principles of 'making the present with the past' and 'taking the texture from the past', and gradually formed a set of rigorous, systematic and sustainable material and technology restoration mechanism, ranging from the selection of raw materials, traditional dyeing and sewing techniques to the reproduction of decorative patterns. From the selection of raw materials, traditional dyeing, and sewing techniques to the reproduction of decorative patterns, a set of rigorous, systematic, and sustainable materials and technology recovery mechanisms has been gradually formed.

In terms of materials, most of the Ming dresses were made of high-grade silk fabrics, such as cloud brocade, gauze, and damask. Cloud brocade was used to show off the noble status with gold and silver threads and complex patterns, while gauze was used for summer ceremonies because of its lightness and breathability, and damask was widely used for embroidery because of its delicacy and softness. The Confucius Museum gives priority to traditional hand-woven natural silk fabrics based on the comparison between documentary records and real objects and ensures a high degree of consistency in physical properties and visual perception between the original material and the historical objects through comprehensive analyses of weaving structures, warp and weft densities, colors, lusters, and thicknesses.

Dyeing and finishing, the Ming dynasty's traditional clothing color more natural plant dye coloring, such as bluegrass (indigo) dyeing basalt blue, safflower and sumac dyeing reddish red, yellow gardenia and acacia rice dyeing yellow, with five times, alum and other mordant regulating color phase and color fastness. Confucius Museum in dyeing restoration, replicating the traditional dip-dyeing process, precise control of dye concentration, dye bath temperature, and mordant proportion, through modern molecular spectral analysis to assist dye selection

and stability test, so as to ensure the historical restoration of the color of the dress and visual stability.

In terms of sewing technology, the structure of the costumes follows the principles of 'straight cutting and flat sewing' and 'symmetrical structure' of the Ming Dynasty, and the basic shape of the lapel, cross-necked, wide robes, and large sleeves reflect the normative nature of etiquette. During the restoration process of Confucius Museum, ancient handmade stitches are widely used, such as flat stitches, hidden stitches, locking edges, etc., focusing on even stitching, hidden stitching, and stable structure. In terms of decorative patterns, the costumes are mostly embroidered with complementary mythical beasts (such as the blue dragon, white tiger, vermilion bird, Xuanwu) as well as traditional auspicious patterns such as water waves, auspicious clouds, and lotus flowers, etc. The main use of Su embroidery, wool, and other handcrafts, is the pursuit of three-dimensionality, color gradation, and decorative mood of the restoration of the pattern.

In order to solve the real problems of high difficulty, long time-consuming, and lack of resources of traditional techniques, the Confucius Museum actively introduces modern auxiliary technology. For example, it uses digital micro-imaging to observe the microstructure of fabrics, AI image recognition and restoration algorithms to digitally model and optimize the redrawing of patterns, and three-dimensional modeling and CAD technology to optimize the pattern of dressmaking and improve the precision of cutting and production efficiency. This organic combination of traditional craftsmanship and modern science and technology provides solid support for achieving a high degree of precision and sustainability in the restoration of material technology.

3.3 Analysis of the Current Situation in Restoration Practice

At the current level of restoration practice, the Confucius Museum has formed a relatively mature research and operation path but still faces many challenges in the process of concrete implementation, covering the acquisition of materials, technology inheritance, system design, and other aspects. Recovery practice at this stage mainly presents three types of paths: direct restoration, symbolic refinement, and innovative reconstruction, each with its own characteristics and limitations.

Direct restoration is the practice with the most historical restoration value. This method relies on rigorous documentary evidence and physical analysis and restores the original appearance of Ming Dynasty costumes with traditional craftsmanship, such as the restoration of some of the Ming Dynasty ceremonial costumes and official costumes in the Confucius Museum, which adopts this method. In the proportion of structure, patterns, materials, and sewing techniques to pursue the maximum degree of restoration. However, the high cost, complicated process, and long period of time constrain the widespread implementation and promotion, and the technical feasibility of complete restoration is still a challenge because some original materials and techniques are on the verge of being lost.

Symbolic transformation emphasizes the extraction of typical elements of traditional costumes (e.g. buttons, patches, cloud patterns, etc.), transforming them into modern visual language, and using them for exhibition design, costume improvement, or cultural creative product development, so as to strengthen the recognition and dissemination of cultural symbols. This method is convenient for public acceptance and dissemination, but in the process of simplification, it may result in weakening or even misinterpretation of the cultural connotations, affecting the expression of its deep cultural values.

Innovative reconstruction is the path of integrating traditional elements with modern design concepts to achieve cultural regeneration. The Confucius Museum has applied this strategy in the research and development of derivative products and contemporary costumes, realizing the transition from 'restoration' to 're-creation' through cross-border cooperation and contemporary aesthetic reconstruction. However, if the reconstruction path lacks sufficient cultural awareness and historical prudence, it may easily deviate from the original cultural context and even lead to cultural misinterpretation and vulgarisation.

In addition, the current restoration practice has the following common problems: first, the gradual loss of high-level traditional skills, which restricts the quality of restoration; second, the lack of uniformity in restoration processes and standards, which leads to uneven quality of results; third, the lack of authoritative evaluation system, which affects the academic value and cultural influence of restoration results.

In order to solve the above problems, it is suggested to start improving in three aspects: firstly, strengthening the protection of intangible cultural heritage, and improving the inheritance mechanism and academic support system of traditional crafts; secondly, establishing a standardized system of restoration techniques and processes, and

realizing the unification of operation procedures, quality standards, and evaluation mechanisms; thirdly, promoting the integration and application of sustainable materials and digital tools to improve the efficiency of restoration, reduce the cost, and improve the adaptability to the environment and the times. Third, promote the integration and application of sustainable materials and digital tools to enhance recovery efficiency, reduce costs, and improve adaptability to the environment and the times.

The traditional costume restoration practice of Confucius Museum is transforming from static reproduction to dynamic innovation, showing a new development trend of 'keeping the right and innovation, fusion of ancient and modern'. Only on the basis of respecting the historical truth and traditional spirit, and continuously integrating new technology and new concepts, can we realize the living inheritance and renewal of Chinese traditional costume culture.

4. STUDY ON THE RECOVERY AND INNOVATIVE APPLICATION PATH OF TRADITIONAL COSTUMES IN CONFUCIUS MUSEUM

4.1 Cultural Creative Transformation of Traditional Costumes and the Integrated Development of Culture and Tourism

Confucius Museum has rich cultural relics resources of Ming Dynasty costumes, and these traditional costumes have strong potential for cultural creativity due to their rigorous ritual structure, exquisite craftsmanship, and deep cultural connotation. Transforming traditional costume elements into cultural products that meet modern aesthetics not only helps to enhance the social communication power of cultural relics but also promotes the synergistic development of cultural and creative industries and the tourism economy.

In terms of cultural and creative transformation, the patterns, structures, and craftsmanship techniques in costumes can be refined into cultural symbols with visual recognition and applied to the design of various cultural and creative derivatives, such as clothing, accessories, stationery, household products, etc., so as to realize the commercialized expression of cultural contents. At the same time, through the integration of modern fashion language, popular aesthetic trends, and functional materials, 'New Chinese' style clothing can be created to meet the dual needs of contemporary consumers, especially young groups, for national culture and personality expression, and to enhance the cultural influence and commercial value of the Confucius Museum brand.

At the level of tourism development, the immersive experience of traditional costumes can effectively enhance the cultural memory and enthusiasm of tourists. By setting up interactive projects such as dress experience areas, ritual interpretation, and scene restoration, tourists can experience Confucian dress culture and the spirit of etiquette in wearing, role-playing, and festive activities. For example, the use of restored costumes in ceremonial activities such as the Confucius Birthday Commemoration and the Confucius Ceremony not only creates a solemn and ceremonial cultural atmosphere but also serves as an important part of the cultural and tourism integration products. In addition, designing special tourism routes around the theme of traditional costumes, such as the 'Ceremonial Costume Culture Tour', which combines exhibitions, explanations, and immersion interactions, has helped to form a comprehensive development model that places equal emphasis on cultural education and tourism consumption.

The introduction of digital technology provides new possibilities for cultural creation and tourism experience. The Confucius Museum can link up with universities and technology enterprises to build an online dress display and interactive system through AR/VR, 3D modeling, virtual try-on, and other technologies, so as to achieve cross-platform and cross-media cultural dissemination and enhance the expressiveness and penetration of traditional dress in the digital cultural tourism ecosystem.

4.2 The Living Transmission of Traditional Costumes in Drama and Film

Drama and film, as the core media of contemporary cultural communication, play an important role in promoting the reproduction and innovation of traditional costumes. The Ming Dynasty costume system restored by the Confucius Museum, with its institutionalized and programmed characteristics, has become an important visual resource for character construction and narrative expression in film and television dramas.

First of all, traditional costumes have a high degree of cultural symbolism and characterization in film and television works. The costumes not only reflect the identity, gender, status, and background of the characters, but also convey the spirit of etiquette and cultural values through their form, pattern, and color system. For example,

the emperor's coronet, the scholar's straight train, the sacrificial crown, and other types of clothing in film and television dramas strengthen the logic of class and cultural atmosphere, with irreplaceable visual and symbolic functions.

Secondly, the restoration of traditional costumes in film and television production emphasizes the unity of historical authenticity and artistic expression. Designers need to use modern means such as digital weaving, digital printing, 3D modeling, and other technical means to reproduce the structure of ancient costumes with high precision according to the restoration results of the Confucius Museum. At the same time, in order to meet the needs of camera performance and actors' movements, moderate innovations in materials and cuts are needed to enhance the wearing comfort and filming adaptability of the costumes.

However, the application of traditional costumes in film and television also faces challenges. On the one hand, some of the high-precision costumes are difficult to reproduce under the existing technology conditions, especially the modern imitation of traditional fabrics such as Yunjin and Songjin; on the other hand, in the pursuit of commercial effect and visual impact, how to avoid superficiality and excessive entertainment treatment of cultural content is a problem that creators need to seriously face.

Looking ahead, the development of digital technology will greatly broaden the dissemination path of traditional costumes in film, television, and related cultural products, and emerging forms such as VR virtual theatre, AR wearable experience, and meta-universe theatre space will provide a new stage for the digital reproduction of costume culture. The Confucius Museum should carry out in-depth cooperation with film and television organizations, design colleges, and digital content enterprises, establish a whole chain cooperation mechanism from material collection, and costume restoration to creative dissemination, and promote the continuous spread of the cultural connotation of traditional costumes in multiple media.

4.3 Design Strategy for the Integration of Traditional Costumes and Modern Functionality

In the process of transforming traditional cultural protection into modernity, how to realize the integration of traditional costumes with modern functional needs is a key issue in the innovative development of traditional costumes. While promoting the restoration of costumes, the Confucius Museum should also pay attention to the synergistic development between national characteristics, traditional crafts, and modern design language.

Ethnic characteristics are the most important cultural attributes of traditional costumes. The costumes displayed in the Confucius Museum embody the etiquette and aesthetic pursuit of Confucian culture through the combination of structural design, color scheme, and auspicious patterns. The innovation of traditional costumes should avoid hard copying, and through the refinement of core cultural connotations such as 'Confucianism' and 'etiquette', simplify the forms and reconstruct the styles in the modern context, so as to make them closer to the aesthetics and lifestyles of modern people. For example, modern Chinese dresses are developed based on the elements of the 'Shanyi system', and flexible silhouettes are introduced on the basis of retaining vertical lines and symmetrical structures, so as to strike a balance between tradition and modernity.

The value of traditional dresses is highly dependent on exquisite craftsmanship, such as embroidery, dyeing, buckles, brocade, etc. However, under the impact of industrialized production, the value of traditional dresses has been reduced. However, under the impact of industrialized production, these crafts are facing the risk of being lost. The Confucius Museum should establish craft archives in restoration practices, promote cooperation with NGTs, and support craft inheritance and artisan training. At the same time, with the help of modern technology such as laser engraving, 3D printing, intelligent sewing, and other means, it should modernize and reconstruct traditional skills, improve production efficiency and quality control, and give new life to traditional crafts.

Contemporary consumers have higher requirements for the functionality, comfort, and multi-scene adaptability of clothing. The innovative design of traditional clothing should focus on the lightness and breathability of the fabric, the convenience and wearability of the pattern, and the ergonomic optimization of the details. On the basis of retaining cultural elements, modern textile materials are used to realize waterproof, wrinkle-resistant, quick-drying, and other functions of the clothing to enhance the wearing experience. At the same time, the application of intelligent wearable technology, such as temperature-controlled fabrics and adjustable structures, also gives traditional clothing a variety of functions, expanding its application in business, education, exhibitions, and other scenarios, and realizing a leapfrog transformation from ceremonial display to daily wear.

5. CONCLUSION

1) Traditional dress is the core carrier of the Ming ritual system and the institutionalized construction of Confucian culture. The traditional costumes in the Confucius Museum, as a system of crowns worn by the 'Diffractive Sage' family in accordance with the national ritual system, not only inherited and standardized the Ming dress system but also profoundly embodied the regime's institutional support for the orthodox status of Confucianism. The evolution path of 'inheritance - institutionalization - aestheticization' clearly reflects the continuous embedding of Confucian culture in the national political order and social etiquette system, and provides a physical paradigm for the study of the ancient Chinese dress system and the spirit of etiquette.

2) The Confucian costumes are highly uniform in form, color, and craftsmanship, demonstrating the dual functions of aesthetics of ritual and moral education in the Ming Dynasty. These costumes were strictly formulated in accordance with the 'Daming Huidian' and 'Rites of Passage', reflecting a high degree of integration of institutionalized forms, totemic ornamentation, and symbolic colors. At the same time, the craftsmanship is fine, the materials used are exquisite, and the symbols such as white cranes, lotus flowers, and cloud patterns convey Confucian virtues and patriarchal identity, which has a distinctive function of 'carrying the way through rituals', and is a high degree of expression of Chinese etiquette and aesthetics.

3) The restoration of traditional costumes has become a cultural reconstruction project integrating historical evidence, non-heritage techniques, and technological innovation. In the restoration of costumes, the Confucius Museum has built a systematic mechanism integrating documentary research, material analysis, technology inheritance, and digital modeling to promote the transformation of traditional culture from static cultural relics to dynamic communication. Although the current restoration practice is still facing problems such as scarcity of materials, loss of craftsmanship, and lack of standards, its exploration of symbols and innovative reconstruction paths has opened up a new direction for the contemporary expression and cultural dissemination of traditional costumes.

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