

Exploring The Application of Crossover Design Techniques in Modern Leather Art

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Abstract

Leather art, mainly refers to natural leather as the material, and handmade techniques being the main means of creating a technique or art form. In recent years, in many countries and regions, leather art has shown strong artistic creativity. As traditional crafts are evolving, they are being adapted through novel forms of expression and techniques to ensure their relevance in a contemporary environment, while retaining the essence of the practices.

In the context of leather art, the term 'crossover design' goes beyond its traditional usage in research and clinical trials. Here it is closer to being a dynamic synthesis of artistic techniques, applying the art of wood carving and the handcrafted techniques of fabric reconstruction perfectly to the art of leather. This innovative method not only broadens the boundaries of traditional craftsmanship, but also blends tradition with modern expression.

This paper mainly puts forward the research topic of the innovative use of a variety of techniques in the form of leather art display. The objective is to create three-dimensional, contemporary and artistic decorative works using multidisciplinary techniques, innovative forms of artistic display of leather art, to achieve a different effect and a sense of aesthetics, thus triggering more crossover design of the imagination, and to promote the development of the art of leather and the form of innovation, through diversified creative practice, it constantly redefines and enriches the boundaries of traditional crafts.

This study takes leather art as a starting point to provide a new perspective on traditional handicrafts. The research and experimental results show that the innovative fusion of contemporary tools, materials and creative techniques has an important cultural and social impact on modern artistic

expression, especially through the integration, disintegration and re-integration of techniques, which broadens the path of craftsmanship as well as providing a new dimension for creative design.

Keywords: Leather Art; Crossover Design Techniques; Handicraft

Introduction

Leather, one of the oldest natural resources of mankind, animal skins and hairs have played an integral role in human life since ancient times. They are widely used to make warm clothing, shoes, and tents (Appiah-Brempong, 2020).

With the development of time, many artists have shown great artistic creativity in the application of materials, not only using leather as a material in the field of clothing and furniture, but even in the field of decorative arts is also slowly increasing. Most of the current research in both East and West focuses on the leather manufacturing industry, traditional handmade leather carving techniques and as a material in itself, while very limited research has been done on more artistic creations on leather. The authors will start from the perspective of crossover design, and try different creative techniques from multiple disciplines to enrich the path of leather art creation.

The author has a keen interest and foundation in the aesthetics of the textural tactility of leather art, and this study provides valuable insights into the study of modern leather art techniques. It emphasizes the importance of preserving cultural traditions while adopting innovative approaches. It enriches and expands the horizons of leather art and provides insights into how the fusion of different techniques can produce new aesthetics. Based on the current development of leather art in both the East and West, it explores research and practical creation, and attempts to combine leather art with decorative painting and sculpture forms, to show the new style of leather craft applied to the pure art field, and to develop further the boundaries of craftsmanship.

Research objectives

1. Explore the potential of combining traditional craftsmanship with modern design techniques: Investigate how traditional wood carving and fabric manipulation techniques can be integrated with contemporary leather art to create innovative artistic expressions.

2. Analyze the impact of crossover design techniques on leather art: Examine how the application of crossover design techniques enriches the visual and tactile experience of leather art.

3. Demonstrate multidimensional creative expressions in leather art: Showcase new forms of decorative design in leather art through the integration of various techniques, driving innovation in traditional crafts.

Research method

This study employs a combination of qualitative research methods to explore and analyze the application of crossover design techniques in modern leather art.

1. Literature Review: The research begins with an extensive review of existing literature on leather art, traditional wood carving, and fabric manipulation techniques. This review provides a theoretical foundation and contextual background for the study.

2. Comparative Analysis: The study involves a comparative analysis of different traditional and contemporary techniques used in leather art. This includes examining the similarities and differences between leather carving, wood carving, and fabric pleating methods, focusing on how these techniques can be integrated into leather art.

3. Experimental Design and Art Practice: The core of the research involves practical experimentation. The author creates a series of leather artworks using a combination of traditional techniques (like wood carving and fabric pleating) and modern design principles. These experiments aim to discover new textures, forms, and aesthetic possibilities in leather art.

4. Documentation and Analysis: Each stage of the creative process is meticulously documented through photographs and process notes. This documentation allows for a detailed analysis of the outcomes, helping to identify the effectiveness of the crossover techniques and their potential for broader application in the field of leather art.

Research Results

The research scope of this article is the innovative application of handcrafted techniques of leather art combined with crossover design techniques such as wood carving and fabric recycling in

decorative design, with a focus on the aesthetics and texture produced by the skillful application of techniques from different specialties to leather:

1. Leather art

Leather has been in widespread use since its first introduction in 3000 BC by the Egyptians. They are credited with discovering leather as an excellent material for use in battle and household furniture. It was utilized for tents and weapon carriers as well as body armour (Oguda, 2019). According to Japanese leather artist KAZUKO HIKOSAKA (1977–1979), a record of leather processing was found on an Egyptian bas-relief in 1450 B.C., and the oldest surviving leather belt shoes were found in an Egyptian cemetery. Archaeologists have discovered that in Greco-Roman times there were leather factories that manufactured everyday items such as clothing, weapons, and shoes in large quantities, and that decorative techniques were already well developed. In the Middle Ages, the decorative techniques of engraving and rubbing were used, leather has also used in the binding of books, people wrote the text on sheepskin, known as parchment. From 11th century to the 15th century, China and Persia developed a very complex leather technology, which is not lack of embossing and engraving of the production, and then by the Arabs into the countries of Europe. In 1492 AD, European culture was imported into the Americas, and the leather technology was also imported to the Americas by the Spanish into the Americas. In the renaissance period, leather craft was integrated into the decoration of painting, making beautiful books, etc. In the 18th century, the rise of the industrial revolution, produced the leather manufacturing scientific research, the French chemist studied the method of vegetable tanning, that is, is now used in vegetable tanned leather. It can be seen that the development of the decorative art of leather has been a fusion of many cultures, with different cultures in different regions giving different aesthetics and meanings to leather products. In modern times, leather art includes the use of various types of leather as a medium of artistic expression, covering a wide range of leather processing techniques and styles to create visual and tactile artefacts. According to surveys, artists working in leather art use techniques such as printing, carving and knotting to manipulate the material and produce works of art, including decorative paintings and intricate designs such as wearable installations (Figure 1).

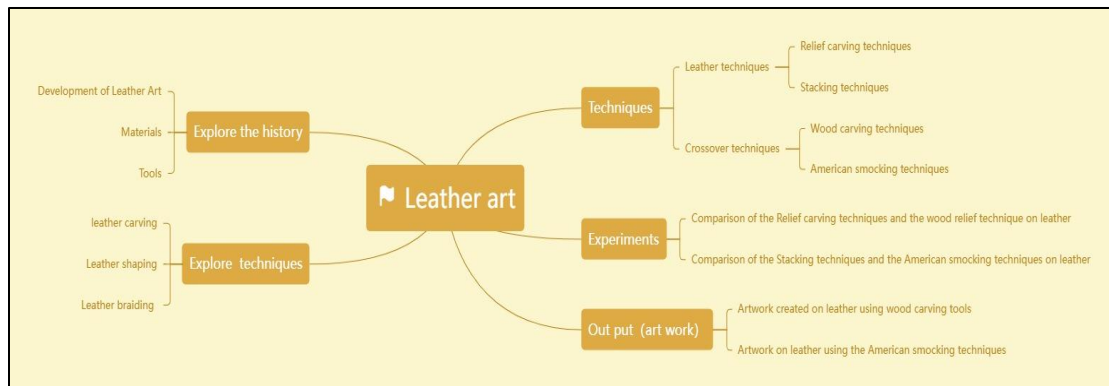


Figure 1 Diagram from the study of leather art (Source: Constructed by the researcher)

Leather crafting is an art that deals with the cutting, stamping, folding, and decoration of leather (Luke, 1974). The expression of leather art is mainly in the form of clothing design, interior home design, product design (Figure 2 and 3), from the leather art decorative handmade techniques are mainly divided into leather carving and leather shaping, the use of leather is to carry out tanning leather, vegetable tanned leather. This leather has a strong shaping ability, by wetting the leather using carving tools, shaping rods or moulds can be shaped.



Figure 2 Leather carving table tennis racket packs (Source: By researcher, 2023)



Figure 3 Leather shaping work (Source: By Duan Guoan, 2020)

Carving art is one of the techniques to make ornaments used to decorate products (Muntoli, 2020). Al Stohlman named this technique leather carving in his book *How to Carve Leather*. Leather carving can highlight the spatial relationship by using the different dynamics of carving, so that the carved picture has a three-dimensional sense, and finally, the visual feeling of relief can be presented through painting. Carving is quite basic in the decorative technique of leather art, which requires the producers to repeat a lot of exercises and skillfully operate tools so as to be able to carve extremely fine patterns. Speaking of handmade leather carving, we have to mention Donald Lee King, an American leather carving master. Donald is an important leather carving artist, who has spread leather carving to the whole world. In his works, we can see a very pure Xie Lidan style, which is composed of flowers, leaves and stems, arranged in leather products such as purses and saddles in an orderly manner, and decorated densely without a crack, with amazing exquisiteness (Figure 4). Leather carving technology can be used for any leather product as decoration. In modern times, many artists use leather carving technology to carve people, pets, buildings and other realistic styles.

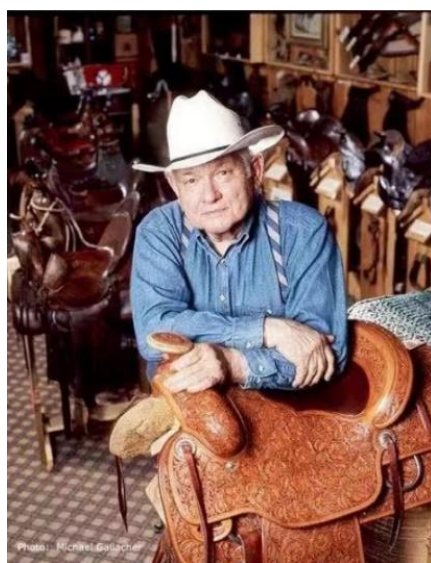


Figure 4 Donald Lee King and his leather carving (Source: By researcher, 2023)

Leather shaping, which we can also think of as leather sculpture, takes advantage of the excellent plasticity of vegetable tanned leather, which is first soaked in water and wrapped around a pre-made model, using plasticity rods, presses and rubbers, and applying techniques such as scraping, pinching, pressing, drilling, and so on, so that the image of the mould is slowly rendered. This is repeated until the effect is achieved. For example, in Hideo Motoike's work, the wetted vegetable tanned leather

is used to shape the figures or scenes using moulds and plastic rods to create vivid three-dimensional scenes (Figure 5).



Figure 5 Leather modelling by Hideo Motoike (Source: By researcher, 2023)

In addition, braiding is also a more common form of expression in the art of leather, generally used for belts, bags and so on, such as the brand Bottega Veneta in the classic handmade leather braided bag, while braiding can also be combined with the way of hollowing out the leather strips interspersed with hollowing out the place, you can produce a variety of effects.

Summary, Leather can be used to produce a wide range of objects, and they include bags, shoes, gloves, coats, book covers, and so many other beautiful things. It's the general purpose of leather today that makes a lot of people love it. It having a general-purpose means that it attends to the needs of both women and men, and that is another big plus. Leather is one of the most durable crafting materials anyone could work with, and so, no matter the number of years you use it, it still retains its quality, texture, strength, and smell (Luke, 1974). So leather is a very suitable material for making decorative crafts.

2. Crossover Design

Crossover originally meant "change, turning" in English. In fact, crossover has not been accurately defined in Wikipedia for the time being, but the meaning of "Crossover " is illustrated by examples. At present, the word " Crossover " is not included in the Modern Chinese Dictionary, so we can't find the relevant explanation. To sum up, we can see that " Crossover " is a new word, and its modern usage is derived from the development of the times.

In the book "KUA JIE (Crossover)" by Blue Creative Crossover Innovation Lab (2008), crossover is defined as: "refers to the enterprise/brand behavior that breaks through the original industry convention and achieves value leap through grafting the value of other industries or comprehensive innovation". In the book design dictionary, there is also a clear definition of the word transboundary: Crossover is the (mainly intentional) overlapping of procedures, practices, or styles from two or more disciplines. During the crossover process, certain characteristics and influences from disciplines like architecture, design, art, literature, media, fashion, or music are adapted and coordinated for the generation new or modified products, services, strategies, or statements. The resulting designs often create new target groups and markets because they reflect a blend of influences from multiple areas rather than one isolated discipline. So it can be judged that cross-border behavior involves two or even more industries. Extending this concept to crossover design is that cross-border design is the integration and infiltration of design concepts between different fields, spaces, cultures, and styles. The essence of crossover is innovation, and industry resources are integrated through crossover ways to play a greater role and create greater value.

Woodcarving is also a carving craft with a long history, and it is an important kind of traditional carving craft. The woodcarving art bears the aesthetic feeling of natural materials and the author's emotion, and contains profound humanistic details between the knife, pen, hammer and chisel. It is a carving art with a long history, high artistry and strong technology in traditional crafts (Lin & Yin, 2023).

The relationship between wood carving technology and leather technology is multifaceted, not only rooted in traditional technology, but also the technologies and tools used in wood carving, such as chisels and carving knives, can find resonance in the leather art world. The inevitable relationship between wood carving and leather art lies in their common affinity for tactile expression and three-dimensional form. Wood has natural texture, which provides a tactile canvas for carving complex patterns, while leather has countless sculpture possibilities because of its soft and durable quality. In particular, the "V" and "U" carving knives can be used to sculpt the texture of bas-relief on leather. Wood carving techniques can broaden the boundaries for the development of leather art.

For the pleats in fabric reconstruction, the author uses American smocking technology. American smocking is worked entirely on the reverse of the fabric and creates a dense puckered design on the front of the fabric (Singer, 2013). In the book, Ruth clearly shows the basic techniques in the form of pictures, including various sewing methods of folds. It is a simple way to enrich the texture of the fabric

by sewing and stitching by hand to form a texture with a strong three-dimensional sense, such as concave-convex, rotation and so on, and decorating it to form an elegant and unique shape on the fabric. Handmade pleats are applied to leather decoration art, which introduces new dimensions of texture, depth, visual and tactile interest (Figure 6).



Figure 6 American smocking technology (Source: Singer, 2013)

3. Experimental

In this study, the author defines the scope of the research, which is the use of carving techniques of wood carving art, American Sparks technique of hand pleating in leather art, comparing it with the modern techniques of leather art, discovering its new artistic effects and texture in decoration and making decorative sculpture works (Figure 7; 8 and 9).

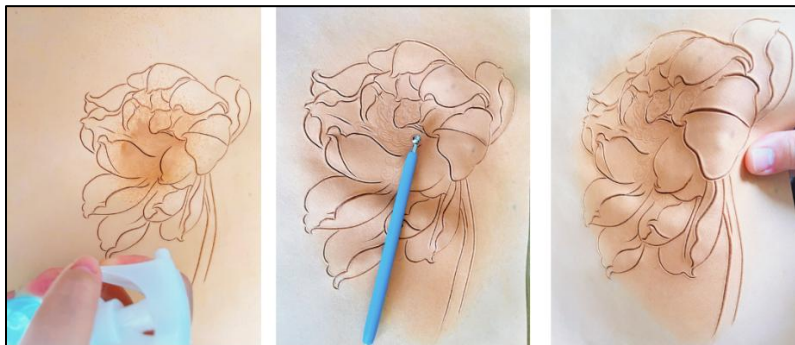


Figure 7 Relief carving techniques process (Source: By researcher, 2023)



Figure 8 Relief carving techniques effective demonstration (Source: By researcher, 2023)

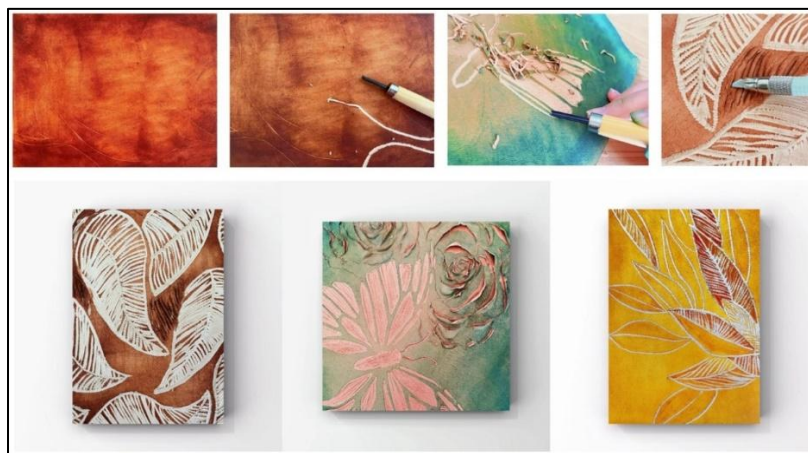


Figure 9 Wood carving techniques process and artwork of decorative painting
(Source: By researcher, 2023)

The wood carving technique is a subtractive way of creating intricate patterns and designs that add layers and decorative qualities. In contrast, the back of the leather is shaped in a way that relies more on tools to create a three-dimensional look and less on intricate carving (Figure 10;11;12 and 13).



Figure 10 Stacking techniques process (Source: By researcher, 2023)



Figure 11 Stacking techniques process effective demonstration (Source: By researcher, 2023)

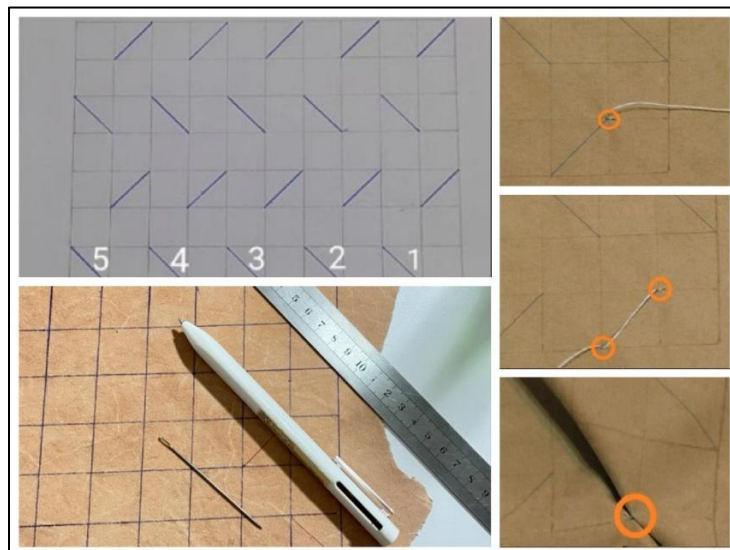


Figure 12 American smocking techniques process (Source: By researcher, 2023)

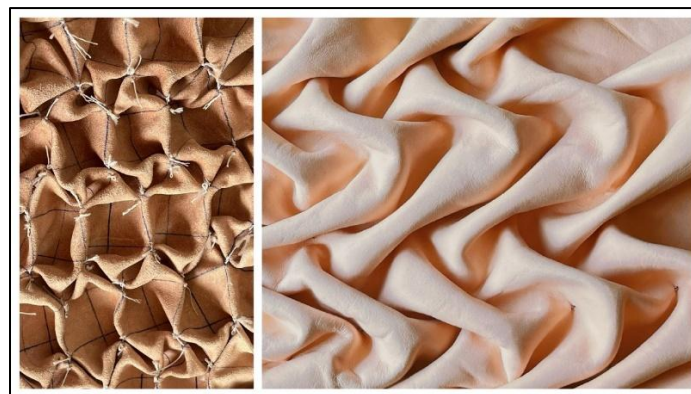


Figure 13 American smocking techniques effective demonstration (Source: By researcher, 2023)

In comparing the leather stacking technique to the American smocking technique, both involve the manipulation of materials to create three-dimensional textures and structures. Stacked leather requires multiple pieces of precisely cut leather to be layered to add volume and dimension, resulting in a sculptural effect. Similarly, the American Smocking technique produces a softer, smoother texture, combining the soft qualities of leather to produce softer folds that add depth, movement and visual interest to the surface (Figure 14 and 15).



Figure 14 American smocking techniques leather artwork (Source: By researcher, 2023)



Figure 15 Internal and wire stitching (Source: By researcher, 2023)

This collection of leather sculptures artwork is inspired by the repair of relationships, where wounds remain even when stitched with hard metal wire. This is a new combination of American Smocking techniques and metallic materials on leather.

Discussion

This study's exploration of crossover design techniques in modern leather art has revealed significant insights into the potential of integrating traditional crafts with contemporary artistic expressions. The findings underscore three primary areas of impact: the expansion of creative boundaries, the enrichment of visual and tactile aesthetics, and the preservation of cultural heritage through innovation.

Expansion of Creative Boundaries: The integration of wood carving and fabric manipulation techniques into leather art demonstrates how traditional crafts can be reimagined and applied in new contexts. This crossover approach broadens the scope of leather art, moving it beyond its conventional applications in fashion and accessories into the realms of sculpture and decorative arts. The study shows that by combining techniques from different disciplines, artists can push the boundaries of what leather art can achieve, creating works that are both innovative and deeply rooted in craftsmanship.

Enrichment of Visual and Tactile Aesthetics: The experiments conducted in this study highlight the unique aesthetic qualities that emerge when different techniques are applied to leather. The juxtaposition of the hard, defined lines of wood carving with the soft, flowing textures of fabric pleating creates a dynamic visual contrast that enhances the overall appeal of the artwork. Additionally, the tactile experience of these pieces is enriched, offering a multi-sensory engagement with the material. This fusion of techniques allows for the creation of leather artworks that are not only visually striking but also offer a rich tactile experience, appealing to a broader audience.

Preservation and Innovation of Cultural Heritage: By incorporating traditional techniques into modern design, this study contributes to the preservation of cultural heritage. However, it also emphasizes the importance of innovation in keeping these traditions alive. The use of crossover techniques ensures that traditional crafts such as leather carving and fabric manipulation remain relevant in contemporary art and design. This approach not only honors the history of these crafts but also revitalizes them, making them accessible and appealing to modern audiences.

Overall, the study demonstrates that crossover design techniques offer valuable opportunities for innovation in leather art. These techniques enable artists to create works that are both contemporary and steeped in tradition, ensuring that the art form continues to evolve and resonate in a modern context.

Conclusion

This study reveals the transformative potential of leather art through the innovative application of crossover design techniques, offering new perspectives, techniques and possibilities for artistic expression. By combining the traditional crafts of wood carving and fabric treatment with leather art, it witnesses a dynamic synthesis of artistic expression that pushes the boundaries of traditional crafts. Through research and experimentation, we demonstrate the ability of multidisciplinary techniques to infuse leather art with a three-dimensional contemporary aesthetic. The exploration of crossover design produces novel forms of artistic expression, enriches the visual and tactile experience of leather art, and opens up new ways for creative design.

Suggestions

Based on the findings and discussions from this study, the following recommendations are proposed:

1. Theoretical Suggestions

Further Exploration of Multidisciplinary Integration: Future research should continue to explore the integration of diverse artistic techniques into leather art. Specifically, deeper theoretical studies could examine how other traditional crafts, such as metalwork or ceramics, might be integrated with leather to create new hybrid art forms. This could expand the scope of crossover design techniques and contribute to a richer understanding of material interaction in contemporary art.

Development of a Comprehensive Framework for Crossover Design: There is a need for a comprehensive theoretical framework that outlines the principles, processes, and potential outcomes of crossover design techniques. Such a framework would guide artists and designers in systematically applying these techniques, ensuring that the innovative potential of crossover design is fully realized.

2. Policy Suggestions

Support for Cross-disciplinary Craft Education: Educational institutions and cultural organizations should develop programs that encourage cross-disciplinary learning and experimentation. By integrating courses that teach traditional crafts alongside modern design techniques, these programs can equip artists with the skills needed to innovate within their practices. Policies that fund and support such educational initiatives are essential for fostering the next generation of artists who can bridge the gap between tradition and innovation.

Funding for Collaborative Art Projects: Governments and cultural institutions should provide funding and grants specifically aimed at collaborative projects that involve crossover design techniques. These initiatives could bring together artists from different disciplines to work on joint projects, thereby promoting the exchange of ideas and techniques that can lead to groundbreaking creative outcomes.

3. Further Research Suggestions

Investigate the Commercial Viability of Crossover Leather Art: Further research should explore the commercial applications of crossover techniques in leather art, particularly in fashion, interior design, and product development. Understanding the market potential of these innovative designs could help in scaling up production and making crossover leather art more accessible to a broader audience.

Sustainability Studies in Crossover Design: Given the increasing importance of sustainability in art and design, future research should focus on the environmental impacts of using different materials and techniques in crossover leather art. This includes exploring the sustainability of leather as a primary material and investigating eco-friendly alternatives or processes that could be incorporated into crossover designs.

Technological Integration in Leather Art: As digital fabrication and other advanced technologies continue to evolve, there is potential for integrating these tools into the crossover design process. Future studies should examine how technologies like 3D printing, laser cutting, or digital embroidery can be combined with traditional leatherworking techniques to push the boundaries of what can be achieved in contemporary leather art.

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