

INSIGHTS FROM THE MANDARIN DUCK LACQUER BOX OF MARQUIS YI OF ZENG FOR CONTEMPORARY JEWELRY DESIGN*

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Abstract

This research article aims to: 1) examine how the Mandarin Duck lacquer box from the Tomb of Marquis Yi of Zeng operates as a compact ritual image – object system in which form, structure, surface order, and narrative imagery function together; 2) develop a replicable translation pathway that converts tomb artifact evidence into contemporary jewelry design knowledge; and 3) construct evaluation criteria that ensure cultural readability, structural coherence, and ethical distance from direct copying. The study adopts a qualitative, theory-driven research design. Data were collected from archaeological reports, museum documentation, and scientific analyses of Warring States lacquerware, and were analyzed through formal-structural decomposition, semantic mapping, and pathway construction.

The research results found that:

1. The Mandarin Duck lacquer box functions as an integrated micro-system whose silhouette hierarchy, join logic, border discipline, narrative framing,

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and color contrast structure provide transferable principles for contemporary jewelry design.

2. A six-step translation pathway—evidence anchoring, wearable-scale decomposition, semantic control, surface-principle mapping, composition-rule setting, and evaluation—can systematically convert heritage artifacts into structured design knowledge.

3. The proposed evaluation rubric (cultural readability, hierarchy clarity, structural coherence, and ethical distance) helps prevent superficial motif borrowing and supports defensible heritage translation.

Keywords: Mandarin duck lacquer box, Tomb of Marquis Yi of Zeng, Chu lacquerware, heritage translation, contemporary jewelry design

Introduction

The Warring States period was a moment of intense social change but also extraordinary craft invention, when elite material culture became a key carrier of political order, ritual life, and regional identity. Lacquerware, in particular, developed into a mature system that combined engineered surfaces, controlled color effects, and complex image programs, creating objects that were both durable and visually persuasive. The Tomb of Marquis Yi of Zeng in Suizhou, Hubei, offers an unusually concentrated view of this achievement through a well preserved assemblage that includes large numbers of lacquered objects and components, making it a critical reference for understanding how materials, techniques, and visual codes worked together in a single high status context (Wu et al., 2021; Fu et al., 2020).

Despite growing interest in heritage inspired design, contemporary jewelry practice often borrows historical motifs at the level of decoration while leaving the deeper logic of form, material, and meaning under explained. This gap is especially clear when a culturally specific object such as the Mandarin Duck

Lacquer Box is treated only as an image source, rather than as a structured design system that links biomorphic form, modular construction, surface patterning, and narrative scenes into one coherent statement. At the same time, the cultural product sector increasingly asks for designs that are recognizably rooted in place yet legible to diverse audiences, which requires a clearer pathway for translating heritage into modern wearables without flattening its context (Lin et al., 2007). In response, this study focuses on theory driven analysis and pathway analysis rather than making new design prototypes. It frames the Mandarin Duck Lacquer Box as a compact model of Chu era design intelligence, then extracts transferable principles across three levels: material logic, visual grammar, and symbolic narrative. By linking archaeological material evidence with contemporary design translation thinking, the research aims to clarify how a single iconic artifact can support a rigorous route from tomb object to jewelry concept, including what should be preserved, what can be transformed, and what must be avoided to prevent superficial imitation. This approach not only strengthens scholarly explanation for heritage based jewelry innovation, but also offers a repeatable analytical pathway that can be applied to other artifacts from the Tomb of Marquis Yi of Zeng and related Warring States lacquer traditions.

Objectives

This study objectives are as follows:

1. To examine how the Mandarin Duck lacquer box from the Tomb of Marquis Yi of Zeng operates as a compact ritual image object system in which form, structure, surface order, and narrative imagery work together, and to translate this integrated logic into a theoretical framework for contemporary jewelry design.

2. To develop a replicable translation pathway that converts tomb artifact evidence into contemporary jewelry design knowledge, transforming observable

features into transferable principles, composition rules, and evaluation criteria, while reducing superficial motif borrowing and unsupported cultural interpretation.

Literature Review

Research on traditional Chinese lacquerware, especially studies centered on the Tomb of Marquis Yi of Zeng, provides a solid basis for understanding the material logic, craft processes, and visual systems that can inform contemporary jewelry translation. In Guo's (2009) examination of the tomb assemblage, the objects are discussed as a coherent cultural statement rather than isolated finds. This perspective helps to reinterpret the Mandarin Duck Lacquer Box, especially emphasizing that it is an object whose form, imagery, and value can be transformed into a jewelry narrative.

The excavation report published by the Hubei Provincial Museum (1989) systematically documents lacquer types, construction features, and decorative programs from the tomb. Its detailed accounts of motif placement, color organization, and component assembly offer a stable basis for extracting design elements and for considering how structural ideas may be condensed into wearable formats. From a technical viewpoint, Wei, Pintus, Schreiner, and Song (2011) apply scientific analysis to clarify the layer structure and material composition of Chu tomb lacquer surfaces. Their evidence on build-up methods and pigment use is helpful for considering how lacquer-like depth and gloss might be recreated—or strategically suggested—through contemporary jewelry materials and surface treatments.

Beyond the single tomb context, the Hubei Provincial Museum catalogue (1994) places these lacquer objects within a wider regional and chronological framework, enabling comparisons between the Warring States period and later developments. This helps define what can reasonably be described as Chu-

related visual traits, such as controlled geometric borders, balanced compositions, and polished surface effects, and reduces the risk of stylistic mismatch in design translation. Finally, Lin et al. (2007) present a cross-cultural design model that explains how heritage elements can be abstracted into modern product meaning through selective transformation, consistent color logic, and cultural legibility. Their framework offers a practical methodological link between archaeological pattern systems and contemporary jewelry form making, aligning cultural identity with present-day aesthetics.

Methodology

This study uses a qualitative, theory-driven approach to translate insights from the Mandarin Duck lacquer box from the Tomb of Marquis Yi of Zeng into a contemporary jewelry design knowledge system. The focus is on building a clear analytical pathway and producing research-based outcomes, rather than developing finished jewelry pieces. The method combines object-centered interpretation with material and process reasoning so that visual features are explained through both cultural meaning and craft logic.

The research draws on two main evidence streams. The first stream is object documentation and scholarship that records the box's form, structure, decoration layout, and its role within the wider tomb assemblage. The second stream is scientific and technical research on Warring States lacquerware that clarifies how layers, pigments, and surface treatments create depth, gloss, and durable color. Together, these sources form an integrated dataset that supports both visual analysis and feasible translation into jewelry-scale thinking.

Data selection follows a strict relevance principle. Materials are included only when they support at least one of three translation tasks: identifying stable visual features that can be scaled into wearable form, identifying craft logics that can be re-expressed through jewelry materials, and identifying interpretive frames

that prevent shallow motif copying. Sources are screened for clear descriptions of pattern placement, border organization, color hierarchy, and structural assembly, as well as for methods that explain how heritage elements can be abstracted into contemporary design meaning. Technical studies are included when they provide reliable explanations of how lacquer surfaces achieve their specific optical and tactile qualities.

Analysis proceeds through three linked stages. The first stage is formal and structural analysis of the Mandarin Duck lacquer box as a complete micro-system. The object is broken into readable units, including overall silhouette logic, proportion and symmetry, segmentation of visual fields, border and band rhythms, repeated geometric modules, and the relationship between narrative images and structural partitions. Each unit is described in a way that preserves its internal rules, such as alignment, repetition, and hierarchy, because these rules are often what make the object feel coherent.

The second stage is semantic mapping. Here, the visual units are connected to restrained, evidence-based meanings. Instead of treating motifs as decoration only, the analysis considers how form and image communicate social values, ritual order, and emotional symbolism within the Chu cultural context. Meanings are recorded as concise semantic tags that can guide later translation without forcing exaggerated interpretation.

The third stage is pathway construction. The study converts the formal units and semantic tags into a step-by-step framework that moves from heritage evidence to jewelry-relevant principles and then to evaluation criteria. The pathway defines translation rules such as how to scale patterns, how to align borders with structural lines, how to preserve contrast and hierarchy, and how to simulate layered surface depth using contemporary materials and processes. The outcome is a replicable method that can be applied to other Chu lacquer objects while keeping the Mandarin Duck lacquer box as the anchor case.

Results

1. The Mandarin Duck lacquer box as a compact ritual image object system that can be translated into contemporary jewelry logic

The first result is a clarified understanding of why the Mandarin Duck lacquer box from the Tomb of Marquis Yi of Zeng is not only a beautiful object, but also a compact system where form, surface, and imagery work together to carry meaning. This matters for contemporary jewelry research because jewelry is also a small scale medium that must concentrate symbolism, identity, and emotional communication into limited space. By treating the lacquer box as a complete system rather than a set of motifs, the study identifies a transferable logic that can guide contemporary jewelry thinking without turning the heritage source into a superficial pattern library (Figure 2).



Figure 2 Mandarin Duck Lacquer Box: craft techniques and imagery layout
(Source:<https://mr.baidu.com/r/1Rq8sAqE1pe?f=cp&u=8d3339c40dc1bc85>)

At the level of overall form, the object's animal shaped silhouette is not a purely naturalistic imitation; it is a controlled, readable structure. The body is simplified into a stable volume, while key features such as the head, wings, and tail create recognisable directional cues. This creates a balanced asymmetry: the

object feels alive and dynamic, but it remains stable and orderly. For jewelry theory, this suggests a key principle: biomorphic inspiration can remain wearable and legible when it is structured by a clear volume hierarchy. Instead of copying an animal shape, the focus should be on how the silhouette achieves recognition through a few decisive structural signals.

At the level of construction, the box's open close logic and joint organisation show that function and symbolism are not separated. The object's two part assembly establishes a clear relationship between exterior appearance and interior space. Even without reproducing the mechanism in jewelry, this construction logic is valuable as a conceptual device: jewelry can express union and pairing through structural pairing, mirrored parts, or join lines that are intentionally visible. In other words, the object's structure offers a grammar that can be interpreted as suggesting cultural ideas such as harmony and togetherness through form rather than through explanatory text. This supports the paper's title because the key insight is not only what the images depict, but how the object's physical logic already embodies the symbolic theme (Figure 3).

At the level of surface organisation, the lacquer box demonstrates a highly disciplined decoration order. Patterns are not scattered; they are placed to reinforce structure. Borders and band like divisions align with changes in volume, edges, and joints. Geometric patterns provide rhythm and control, while figurative scenes deliver narrative density. This produces a layered reading experience: from far away, the viewer perceives a strong black, red, and gold contrast; from mid distance, border rhythms and repeated modules become clear; up close, the narrative images carry cultural information. This tiered readability is especially relevant to jewelry, which is often seen at multiple distances and in motion. A contemporary translation model should therefore protect three levels at once: a strong overall silhouette, a mid level structure of repeated order, and a micro level of detail that rewards close viewing.

The study also finds that black, red, and gold palette functions as more than color choice; it can be interpreted as operating as a visual hierarchy system. Black appears to establish depth and boundary, red carries the main decorative energy, and gold may function as controlled emphasis that guides attention and likely reinforces status-related visual cues. In jewelry theory terms, this is a contrast led hierarchy rather than a decorative palette. The transferable point is that cultural color systems can be treated as compositional rules: which color dominates, which color defines borders, which color marks key meaning zones. This is more reliable than directly matching historical pigments, especially when jewelry materials differ from lacquer.

A further insight is how narrative images are integrated into the object without destroying order. The music and dance scenes on the body are framed and positioned so that they remain part of a larger decorative grammar. This is important for jewelry research because narrative elements on jewelry often become either too literal or too chaotic. The lacquer box offers a clear example of narrative inside structure: storytelling is allowed, but it is contained by borders, symmetry cues, and patterned fields. The implication is that contemporary jewelry can carry cultural storytelling if the narrative is framed by a stable compositional system rather than placed as an isolated picture (Figure 3).

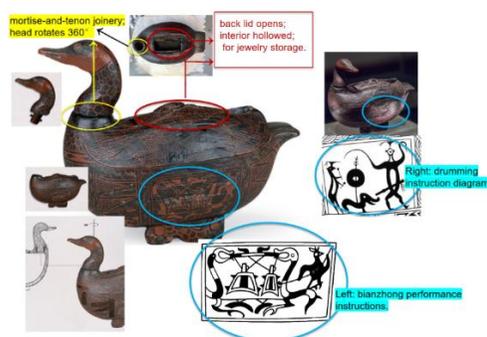


Figure 3 Mandarin Duck Lacquer Box: craft techniques and pattern details

(Source: Constructed by the researcher)

Finally, the object's cultural meaning is communicated through a combination of three elements: paired unity, ritual performance imagery, and refined surface order. Together, these elements can be interpreted as forming an ethically charged aesthetic object, where beauty and value claims appear to reinforce each other. For contemporary jewelry research, this supports a shift away from motif borrowing toward meaning bearing structure. The key contribution is not a design proposal, but a theoretical claim: the Mandarin Duck lacquer box can be understood as a compact model of how form, function, image, and social meaning are fused, and this fusion is precisely what makes it a strong source for contemporary jewelry inspiration (Table 1).

Table 1 Key transferable principles from the Mandarin Duck lacquer box

Evidence in the box	Transfer for jewelry logic
Clear silhouette and volume hierarchy	Use few strong form signals for instant readability
Join logic and two part structure	Express pairing and unity through visible structural pairing
Borders aligned with edges and joints	Let borders control composition and placement
Repetition and geometric rhythm	Use modules to keep order and stability
Narrative scenes framed inside fields	Keep storytelling inside a stable frame
Black red gold hierarchy	Treat color as hierarchy, not decoration

2. A replicable translation pathway from tomb artifact to contemporary jewelry design knowledge, with evaluation criteria

The second result is a pathway model that converts the Mandarin Duck lacquer box from a heritage object into a structured knowledge resource for

contemporary jewelry design research. The pathway is designed to support theory building and method clarity rather than producing final products. It emphasises how to move from archaeological evidence to design relevant principles while reducing two common problems: first, treating heritage as a pattern catalogue; second, over interpreting cultural meaning without structural proof from the object (Table 2).

Table 2 Six step translation pathway and evaluation

Step	Output	Quick check
1: Anchor evidence	Feature list	Can each point be traced to the object
2: Scale to jewelry units	Unit map	Is it readable at wearable scale
3: Control meanings	Meaning tags	Are meanings limited and supported
4: Map surface logic	Surface rules	Does it keep depth gloss contrast
5: Set composition rules	Rule set	Do borders rhythm emphasis stay consistent
6: Evaluate	Rubric	Readable coherent clear respectful

The pathway begins with disciplined evidence anchoring. The study treats the lacquer box as the anchor object, meaning every extracted principle must be traceable to one of its observable features: form structure, decoration placement, color hierarchy, or image framing. This prevents drift into generalized Chu aesthetics that may sound plausible but cannot be verified in the specific case. In practical terms, the pathway asks: which features are stable, repeated, and structural, and which are flexible, optional, or context dependent. Stable features are prioritized because they are more likely to survive translation into new media.

The next step is decomposition into units that match how jewelry is actually perceived. Instead of only listing motifs, the pathway decomposes the object into wearable scale units: silhouette signals, edge and border logic, modular pattern units, emphasis points, and story frames. This decomposition is crucial because jewelry rarely displays an entire historical artifact; it displays fragments, compressions, and recombinations. The pathway therefore does not ask how to copy the object, but which units carry the object's identity when scaled down. This shift directly supports the paper's aim: extracting insights rather than copying appearance.

The third step is semantic control. The pathway defines a limited set of meaning tags based on evidence from the object's structure and imagery. For the Mandarin Duck lacquer box, the strongest tags are pairing and harmony, ritual performance and social order, and refined surface discipline. These tags are intentionally few. The pathway treats meaning as something that must be supported by object logic, not added as poetic interpretation. This is important for academic writing because it keeps the argument defensible: the claim is not that any duck shaped object equals romance, but that the object's paired structure, integrated imagery, and controlled hierarchy together can be interpreted as supporting a relatively stable meaning field.

The fourth step is material process mapping. Because the original object uses lacquer layers, pigments, and high gloss surfaces, the pathway identifies what is essential to translate and what can be substituted. The essential element is not the exact historical substance; it is the surface effect and hierarchy mechanism: depth, gloss, contrast control, and fine boundary definition. The pathway suggests that contemporary jewelry can reach similar visual logic through different means, such as layered coatings, enamel like finishes, resin depth, or polished metal with controlled color fields. Importantly, this mapping remains at the level of research logic, not product design. The goal is to state which surface principles must be preserved to maintain the lacquer like identity.

The fifth step is composition rules. Here the pathway converts extracted units into rules that can be applied consistently across jewelry scale contexts. Examples include: keep borders aligned with structural edges; keep repetition rhythm stable; use gold like emphasis only at key meaning nodes; do not place narrative elements without framing; maintain a clear dominant subordinate hierarchy among visual fields. These rules are what make the pathway replicable: a reader can apply them to other lacquer references or to other objects from the same tomb and still maintain coherence.

The final step is evaluation, which is essential because the paper aims for research outcomes, not design showcases. The pathway introduces criteria that can judge whether a translation remains faithful to the source logic while still functioning in a contemporary context. These criteria include cultural readability, structural coherence, hierarchy clarity, and ethical distance from mere imitation. Cultural readability asks whether the result can prompt correct cultural association without requiring long explanation. Structural coherence asks whether form and decoration support each other instead of competing. Hierarchy clarity checks whether attention is guided intentionally rather than scattered. Ethical distance evaluates whether the outcome is respectful and interpretive rather than a direct copy that erases context.

Discussion

The two findings together suggest that the Mandarin Duck lacquer box from the Tomb of Marquis Yi of Zeng can be treated as a high-density “meaning carrier” for contemporary jewelry research, not because it offers attractive motifs, but because it shows how form, surface order, and imagery can work as one system. This shifts the conversation from decorative borrowing to structure-based interpretation. When jewelry draws from heritage, the most common weakness is a visual shortcut: patterns are lifted, but the organizing logic that made the

original coherent is lost. By reading the box as an integrated ritual-image-object system, the study clarifies a more defensible route: keep the hierarchy, keep the framing, keep the relationship between structure and ornament, then allow materials and scale to change. This is also why the pathway model matters. It acts as a safeguard against over-generalization, since each claim must remain tied to observable evidence, and each step produces an output that can be checked for readability and coherence.

A key strength of this approach is that it connects cultural interpretation to material facts rather than relying on symbolic storytelling alone. The surface logic of the box depends on controlled contrast, layered depth, and crisp boundaries, which are not just “style choices” but outcomes of specific lacquer processes. Scientific studies of excavated lacquer objects show how layering, pigments, and binder behavior shape the final optical effect, including stable red-black contrast and the visual depth that makes small details legible on glossy ground (Wei et al., 2011). This supports the paper’s argument that “lacquer identity” can be translated at the level of surface principles, not by copying historical substances. In other words, contemporary jewelry research can aim for equivalent visual mechanisms—depth, gloss control, and emphasis discipline—while still acknowledging that modern substrates and fabrication constraints differ from excavated lacquerware.

The findings also gain clarity when placed alongside recent design-research examples that translate traditional architectural elements into jewelry knowledge. Work that uses Suzhou’s leaky window elements as a design inspiration shows a comparable challenge: turning culturally specific visual structures into wearable semantics without reducing them to decoration (Wang & Sikka, 2025). This comparison highlights an important point for the present study: “inspiration” becomes academically meaningful when it is articulated as a method with constraints, not as a personal aesthetic preference. In that sense, the proposed pathway contributes a reusable research logic that can be applied

beyond this single object, including to other tomb artifacts that share similar systems of border control, modular rhythm, and framed narrative content.

Several limits should be acknowledged. First, a single anchor object cannot represent the full diversity of Chu lacquer practice, so future work should test the pathway against additional objects from the same tomb to confirm which principles remain stable. Second, cultural readability is context-dependent; what feels “recognizably Chu” to one audience may not translate the same way across regions or age groups, so evaluation should include cross-audience checks. Even with these limits, the study offers a clear conclusion: the Mandarin Duck lacquer box is valuable for contemporary jewelry design research because it illustrates how small-scale objects can be interpreted as compressing ritual order, ethical meaning, and visual hierarchy into a disciplined system, and this system can be translated through a repeatable pathway that prioritizes traceable evidence, controlled meaning, and evaluable coherence.

Recommendations

In general, the study suggests building the research on a clearer “anchor set” rather than a single object. Select several lacquer objects from the Tomb of Marquis Yi of Zeng that share period and style conditions, then apply the same extraction steps to each one. This helps separate stable Chu lacquer logic from one-off features. The pathway can also be made more usable by turning each stage into a short checklist with fixed inputs and outputs, so the method reads as a repeatable protocol rather than a narrative description. Finally, strengthen evaluation by using simple indicators that fit the paper’s goals, such as cultural readability, hierarchy clarity, and structural coherence, instead of preference-based judgments.

For further research, a small verification study can test whether viewers understand the intended meaning tags with minimal explanation, using two

groups such as design-trained participants and general audiences, and reporting results with concise metrics. Another useful direction is a surface-principle study that compares how contemporary finishes can recreate key lacquer effects at jewelry scale, focusing on depth, gloss control, and boundary sharpness rather than copying historical substances. It is also recommended to formalize an ethics guideline that defines what counts as direct copying versus interpretive translation, since this topic becomes critical if the work later connects to museum collaboration or cultural product development.

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