



Influence Of Function On The Interior Architectural Expression Of Heritage Structures

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Abstract:

This study explores how the *purpose of a space* shapes the way its interiors are designed and experienced, especially in heritage buildings. While most discussions around heritage architecture focus on how buildings look from the outside, this research shifts attention inward towards the interiors and the role function plays in shaping them.

By comparing two historically significant structures from Indore Rajwada (1747) and Lal Baug Palace (1920) the study highlights how different uses, contexts, and time periods influence spatial design. Rajwada, primarily administrative in nature, reflects functionality through its spatial hierarchy and movement patterns, whereas Lal Baug Palace, built for residential and leisure purposes, expresses itself through scale, ornamentation, and material richness.

Through documentation, observation, and comparative analysis, the research examines aspects like spatial flow, proportions, detailing, and material language. It aims to understand how these elements are not just aesthetic choices but responses to functional needs and historical context.

Ultimately, the study offers insights that can guide contemporary design approaches, especially in heritage conservation and adaptive reuse, by emphasizing that interiors are not just designed they evolve from purpose

I. INTRODUCTION

Heritage architecture serves as a tangible record of cultural evolution, embodying the social, political, and technological narratives of its time. These structures are often studied and appreciated for their external form, stylistic identity, and historical significance; however, the interior environments within them remain relatively underexplored. Interiors are not merely aesthetic extensions of architectural form but are dynamic spatial systems shaped by functional requirements, temporal context, and patterns of use. They reflect how spaces were inhabited, experienced, and adapted over time.

The role of function becomes particularly critical in understanding interior architectural expression. Spaces designed for administration, governance, residence, or leisure inherently demand different spatial organizations, scales, circulation patterns, and degrees of ornamentation. These functional distinctions directly influence how interiors are articulated ranging from hierarchical and efficient layouts to expressive and elaborate compositions. Simultaneously, the time-period in which a structure is built introduces variations in material technology, construction practices, cultural preferences, and stylistic influences, further shaping the interior character.

Despite this intrinsic relationship, the combined influence of function and time-period on interior architectural expression has not been extensively examined in a comparative context. Most existing studies tend to focus either on stylistic evolution or on isolated case analyses, often overlooking how differing functions within distinct historical periods produce varied spatial outcomes. Addressing this gap is essential, particularly in the current context of heritage conservation and adaptive reuse, where understanding the original intent and spatial logic of interiors can inform more sensitive and contextually appropriate interventions.

This research adopts a comparative approach to investigate two prominent heritage structures of Indore Rajwada (1747) and Lal Baug Palace (1920), both associated with the Holkar dynasty yet differing significantly in function, scale, and temporal setting. Rajwada, primarily an administrative and public-oriented complex, demonstrates spatial hierarchy, controlled movement, and functional clarity. In contrast, Lal Baug Palace, conceived as a residential and leisure space, reflects openness, grandeur, and ornamental richness in its interiors.

Through systematic analysis of spatial hierarchy, scale and proportion, circulation patterns, material and surface language, and ornamental detailing, the study seeks to identify how functional intent and historical context collectively shape interior architectural expression. By drawing comparative insights from these case studies, the research aims to contribute to a deeper understanding of heritage interiors.

II. AIM

To conduct a comparative analysis of how functional intent and temporal context shape the spatial organization and interior architectural expression of heritage spaces.

III. SCOPE OF WORK

This research focuses on understanding the relationship between function and interior architectural expression within heritage structures, with Rajwada and Lal Baug Palace serving as representative case studies of administrative and residential-leisure typologies. The study encompasses the analysis of spatial hierarchy, scale and proportion, ornamentation intensity, material and surface language, and movement patterns within interior environments. Functional, historical, and contextual parameters, including urban density and landscape influence, will be examined to derive broader interpretative and design-oriented insights relevant to heritage conservation and adaptive reuse.

IV. OBJECTIVES

1. Analyze Functional Influence - Analyze how functional requirements shape interior architectural expression in heritage structures
2. Evaluate Design Elements - Evaluate scale, materials, and ornamentation as expressions of programmatic intent
3. Examine Historical Impact - Examine how historical context and temporal factors influence interior design language
4. Comparative Analysis - Conduct comparative analysis between administrative/civic and residential/leisure heritage structures
5. Conservation Principles - Derive conservation and adaptive reuse principles informed by function-expression relationship

V. RAJWADA

Functional Identity & Context

Rajwada served as a primary administrative and civic centre of the Holkar state, constructed around 1747 under the patronage of the Holkar rulers. It functioned as the seat of governance, accommodating administrative activities, official proceedings, and interactions between the ruling authority and the public.

The structure is located in the core of Indore's historic urban fabric, positioned within a dense commercial district. Its immediate context includes active markets, temples, and other civic structures, indicating its integration with everyday urban life. This central placement facilitated accessibility and reinforced its role as a focal point for governance and public engagement.

The urban setting influenced the building's planning and spatial organization, with a compact layout suited to limited space availability and high activity levels. The proximity to commercial and religious establishments reflects the interconnected nature of administrative, economic, and social functions within the city during that period.

Interior Architectural Expression of Rajwada

Compact planning –

Rajwada follows a courtyard-based planning system typical of Maratha architecture. The structure is organized around multiple internal courtyards, with rooms and circulation spaces arranged along their periphery. This layout supports ventilation, daylight penetration, and functional zoning within a dense urban fabric.

Controlled Ornamentation –

Interior ornamentation in Rajwada is limited and primarily integrated into structural components such as wooden columns, brackets, railings, and door frames. Decorative elements are present but not extensively layered across surfaces, reflecting a restrained approach compared to later palace architecture.

Durable Material –

The building utilizes locally available materials, including timber (especially teak), brick masonry, and lime plaster. The lower portions are constructed with stone and brick for stability, while upper levels incorporate timber framing systems. These materials are consistent with regional construction practices of the 18th century.

Hierarchical spaces –

Spatial organization follows a clear hierarchical order, with courtyards acting as central nodes. Spaces closer to the entrance and primary courtyards are more accessible, while inner areas become progressively private. This arrangement reflects controlled access within the building.

Functional circulation –

Circulation is organized through corridors, verandahs, and staircases connected to courtyards. Movement paths are linear and interconnected, allowing access to different sections without overlap of all zones. Vertical circulation is provided through multiple staircases linking different floors.



Fig. 1: exterior context of rajwada

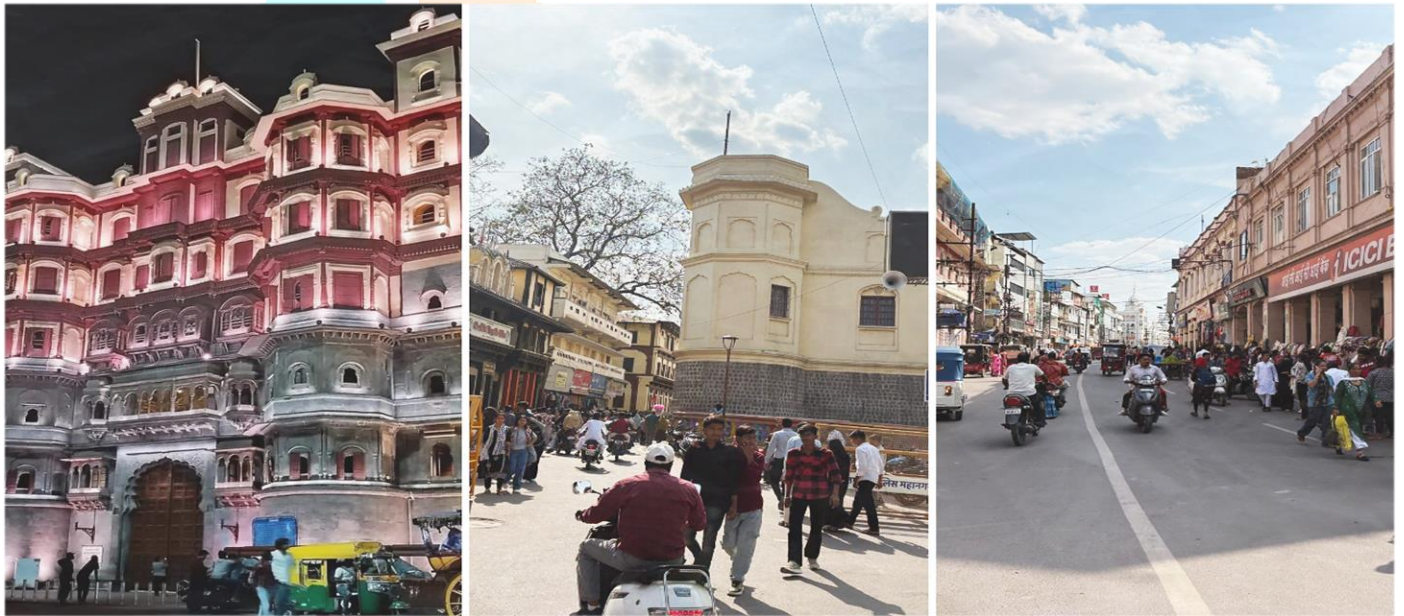


Fig. 2: exterior context of rajwada



Fig. 3: Interior context of rajwada

DESIGN ELEMENTS

- 1. PLANNING & LAYOUT**
 - Courtyard based planning
 - Compact and inward looking
 - Spaces organized around multiple courtyards
- 2. MASSING & FORM**
 - Symmetrical façade
 - Seven storied structure
 - Layered frontage with projecting balconies (jharokhas)
- 3. OPENINGS**
 - Arched doorways and windows
 - Wooden shutters
 - Jharokhas for light, ventilation and surveillance
- 4. MATERIALS**
 - Stone base with brick masonry
 - Timber structure for upper floors
 - Lime plaster finish
- 5. ORNAMENTATION**
 - Carved wooden brackets
 - Decorative cornices
 - Minimal yet elegant detailing reflecting Maratha architecture
- 6. SPATIAL CHARACTER**
 - Hierarchical arrangement of spaces
 - Functional spaces for administration & public interaction

RAJWADA, INDORE

A HERITAGE OF POWER, CULTURE & CONTEXT

Built c.1747 by the Holkar rulers, Rajwada served as the administrative and civic center at the heart of Indore.

CONTEXTUAL ELEMENTS

- TEMPLES**
 Surrounded by historic temples enhancing the cultural and spiritual character.
- MARKETS**
 Located in a bustling commercial district, ensuring accessibility and public engagement.
- CIVIC STRUCTURES**
 Proximity to other civic buildings signifying its role as a center of governance.
- URBAN CONTEXT**
 Strategically positioned in the heart of Indore's old city.
- PUBLIC ENGAGEMENT**
 Designed to facilitate administrative functions and interaction with the public.

KEY HIGHLIGHTS

PERIOD c.1747	PATRON Holkar Rulers	FUNCTION Administrative & Civic Center	STYLE Maratha Architecture	SIGNIFICANCE Symbol of Holkar power, heritage and Indore's cultural identity
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Seat of governance and administrative activities	Integration of public life, commerce, religion and civic functions	Compact planning ensuring security and control	Climate responsive courtyard spaces for ventilation and light	Reflection of Maratha architectural traditions and craftsmanship
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Fig. 4: Detailed Illustration of Rajwada

VI. LAL BAUG PALACE

Functional Identity & Context

Lal Baug Palace functioned primarily as a royal residence and leisure retreat for the Holkar dynasty, with its construction initiated in the late 19th century and completed in the early 20th century, around the 1920s. Unlike earlier administrative structures, the palace was conceived for residential use, ceremonial gatherings, and social activities associated with royal living.

The palace is situated within an extensive, landscape-dominated setting characterized by large gardens and open grounds. This spatial context distinguishes it from dense urban environments, allowing for a more expansive layout and the integration of built and natural elements.

Architecturally, Lal Baug Palace incorporates European influences, particularly in its spatial organization, façade treatment, and interior detailing, which align with construction trends of the late colonial period in India. The overall composition emphasizes residential comfort alongside ceremonial use, with spaces designed to accommodate both private living and formal receptions.

Interior Architectural Expression of Rajwada

Moummental Scale –

Lal Baug Palace is characterized by large spatial volumes and grand proportions, consistent with its function as a royal residence and venue for formal gatherings. The interiors include high ceilings, expansive halls, and large room dimensions, accommodating ceremonial activities and reflecting the scale associated with princely architecture of the late 19th and early 20th centuries.

Decorative Richness –

The palace interiors exhibit decorative detailing influenced by European architectural styles. Ornamentation is visible in elements such as mouldings, ceiling work, columns, and decorative finishes. The use of chandeliers, carved details, and stylistic motifs reflects design trends during the colonial period and indicates a shift toward more elaborate interior treatment.

Imported And Luxury Material –

Material usage in Lal Baug Palace includes high-quality and imported materials such as marble, glass, and fine woodwork. Historical records and existing interiors indicate the incorporation of European materials and finishes, aligning with the construction practices of princely residences during this period. These materials contribute to both durability and visual refinement.

Ceremonial Sequencing –

The spatial organization follows a sequence of interconnected spaces designed for formal use. Large halls, reception rooms, and transitional areas are arranged to support events such as gatherings, receptions, and official functions. This progression of spaces reflects a structured movement pattern associated with ceremonial and social activities.

Landscape Integration –

The palace is set within extensive gardens, and its design establishes a visual and spatial connection between interior spaces and the surrounding landscape. Openings, verandahs, and access points enable interaction with outdoor areas, supporting leisure use and reinforcing the relationship between built form and its landscaped context.



Fig. 5: Exterior Context Lal Baug

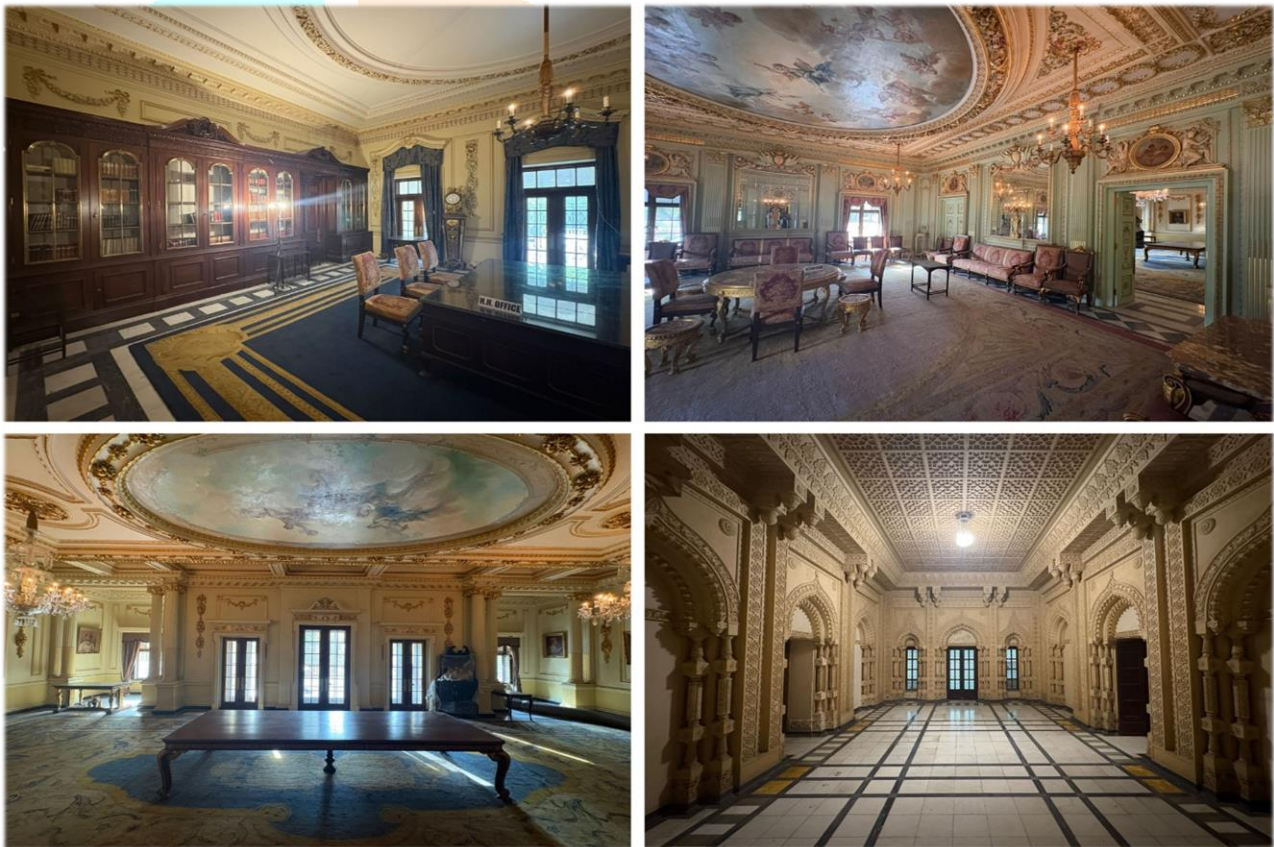


Fig. 5: Interior Lal Baug



Fig. 6: Interior Lal Baug

DESIGN ELEMENTS

- 1. MONUMENTAL SCALE**
 - Grand proportions and soaring volumes reflecting royal status and ceremonial requirements
 - High ceilings and expansive halls
- 2. DECORATIVE RICHNESS**
 - Elaborate ornamentation including European-influenced motifs, chandeliers, and artistic detailing
 - Intricate mouldings, cornices and ceiling work
- 3. IMPORTED/LUXURY MATERIALS**
 - Use of premium imported materials including marble, crystal, and fine woods
 - High quality finishes and elegant surface treatments
- 4. CEREMONIAL SEQUENCING**
 - Spatial progression designed for formal reception, entertainment, and royal lifestyle
 - Sequence of halls and rooms for hierarchical use
- 5. LANDSCAPE INTEGRATION**
 - Strong interior-exterior relationships emphasizing leisure and connection to gardens
 - Verandahs, terraces and large openings to landscape

LAL BAUG PALACE, INDORE

A HERITAGE OF ROYAL LIVING, LEISURE & ELEGANCE

Lal Baug Palace functioned as a royal residence and leisure retreat for the Holkar dynasty, with construction spanning the late 19th to early 20th century and finalized c. 1920s. Set within a landscape-dominated context of expansive gardens and grounds, the palace emphasizes ceremonial and residential functions removed from urban pressures.

PERIOD
Late 19th – Early 20th Century (c. 1920s)

PATRON
Holkar Dynasty

FUNCTION
Royal Residence & Leisure Retreat

STYLE
Indo-European (Colonial Influenced)

SIGNIFICANCE
Symbol of royal lifestyle, leisure, and princely heritage of Indore

KEY HIGHLIGHTS

Grand architecture reflecting royal opulence

Rich interiors with European influences

Use of imported and luxury materials

Strong connection to landscape and gardens

Designed for ceremonial, social and leisure activities

CONTEXTUAL ELEMENTS

- LANDSCAPE SETTING**
Located within expansive gardens and open grounds, creating a serene and retreat-like environment.
- RESIDENTIAL & LEISURE FUNCTION**
Designed primarily as a royal residence and leisure retreat, accommodating ceremonial and social activities.
- COLONIAL ARCHITECTURAL INFLUENCE**
Reflects late 19th–early 20th century European architectural influences in planning, form and detailing.
- REMOVED FROM URBAN PRESSURES**
Situated away from the dense urban core, offering privacy, spaciousness and comfort.
- CEREMONIAL & SOCIAL ENGAGEMENT**
Spaces planned for formal gatherings, receptions and royal entertainment.

Fig. 7: Detailed Illustration of Lal Baug

VII. Comparative Study: Rajwada vs Lal Baug Palace

The comparative analysis of Rajwada (c.1747) and Lal Baug Palace (c.1920s) reveals how differences in functional intent and historical context significantly influence interior architectural expression.

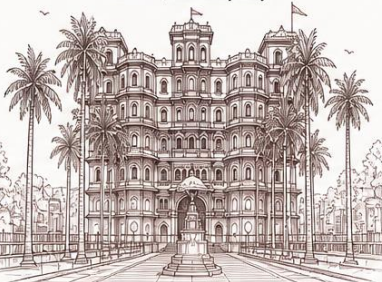
Rajwada, conceived as an administrative and civic center under the Holkar rulers, is embedded within a dense urban fabric characterized by markets, temples, and civic activity. Its interiors reflect this role through compact planning, courtyard-based organization, and a clearly defined spatial hierarchy. Ornamentation remains controlled and integrated within structural elements, while the use of locally available materials such as timber, brick, and lime plaster ensures durability and practicality. Circulation is functional and direct, designed to facilitate governance, controlled access, and public interaction.

In contrast, Lal Baug Palace was developed as a royal residence and leisure retreat during the late 19th to early 20th century, within an expansive, landscape-dominated setting. Its interiors demonstrate a shift toward monumental scale, with large volumes, high ceilings, and spatial openness suited to ceremonial and residential functions. Decorative richness is more pronounced, incorporating European-influenced detailing, chandeliers, and refined surface treatments. The use of imported and high-quality materials such as marble, glass, and fine woodwork reflects advancements in construction practices and changing aesthetic preferences of the period. Spatial sequencing is formal and processional, designed to accommodate receptions, gatherings, and royal lifestyle activities, while maintaining strong visual and physical connections to the surrounding gardens.

This comparison highlights a clear transition from function-driven, context-responsive interiors in Rajwada to expression-driven, experience-oriented interiors in Lal Baug Palace. While Rajwada emphasizes efficiency, hierarchy, and urban integration, Lal Baug Palace prioritizes scale, ornamentation, and landscape engagement. Together, they demonstrate how time period and functional requirements shape not only spatial organization but also the material, aesthetic, and experiential qualities of heritage interiors.

RAJWADA, INDORE

Administrative & Civic Center
c.1747 | Holkar Dynasty




COMPARATIVE STUDY








RAJWADA, INDORE vs LAL BAUG PALACE, INDORE

TWO HERITAGE ICONS. TWO DISTINCT EXPRESSIONS.

LAL BAUG PALACE, INDORE

Royal Residence & Leisure Retreat
Late 19th – Early 20th Century | Completed c.1920s



Administrative and civic center; seat of governance and public engagement	 FUNCTION	Royal residence and leisure retreat; for ceremonial and residential functions
c.1747	 PERIOD	Late 19th – Early 20th Century, completed c.1920s
Located in the heart of Indore's commercial district; surrounded by markets, temples, and civic structures	 CONTEXT	Situated within expansive gardens and open grounds; removed from urban pressures
Compact scale; built for efficiency and functional use within dense urban fabric	 SCALE	Monumental scale; grand proportions and soaring volumes
Courtyard-based planning; compact, inward-looking, hierarchical organization	 PLANNING	Spacious layout; interconnected spaces with strong inside-outside relationship
Maratha architecture with traditional elements and local character	 ARCHITECTURAL INFLUENCE	Indo-European (Colonial) influence with European architectural language and detailing
Locally available materials – stone, brick, timber (teak), lime plaster; built for strength, durability and climate response	 MATERIALS & CONSTRUCTION	High-quality and imported materials – marble, fine woods, crystal, glass; built for luxury, comfort and aesthetics

COMPACT PLANNING
Courtyard based, compact and inward looking, spaces organized around multiple courtyards

CONTROLLED ORNAMENTATION
Restrained decorative language appropriate to civic and governmental functions

DURABLE MATERIALS
Use of robust, locally sourced materials suited to high-traffic administrative use

HIERARCHICAL SPACES
Clear spatial hierarchy distinguishing public, semi-public, and private administrative zones

FUNCTIONAL CIRCULATION
Movement patterns designed to facilitate governance activities and public access

MONUMENTAL SCALE
Grand proportions and soaring volumes reflecting royal status and ceremonial needs

DECORATIVE RICHNESS
Elaborate ornamentation including European-influenced motifs, chandeliers, and detailing

IMPORTED / LUXURY MATERIALS
Use of premium imported materials like marble, crystal, and fine woods

CEREMONIAL SEQUENCING
Spatial progression for formal reception, entertainment, and royal lifestyle

LANDSCAPE INTEGRATION
Strong interior-exterior relationships emphasizing leisure and connection to gardens

RAJWADA, INDORE

A seat of power and governance, shaped by urban life, practicality, and duty to the public.

IN ESSENCE

TWO BUILDINGS. TWO PURPOSES. ONE LEGACY.

LAL BAUG PALACE, INDORE

A symbol of royal lifestyle and leisure, shaped by landscape, elegance, and ceremonial grandeur.

VIII. Conclusion

The study demonstrates that interior architectural expression in heritage structures is a direct outcome of functional intent and historical context. Through the comparative analysis of Rajwada (c.1747) and Lal Baug Palace (c.1920s), it is evident that differing functions administrative and residential result in distinct spatial hierarchies, material applications, circulation patterns, and degrees of ornamentation.

Rajwada reflects a function-driven approach, characterized by compact planning, hierarchical organization, controlled ornamentation, and the use of locally available materials suited to its role as a civic and administrative center within a dense urban context. In contrast, Lal Baug Palace exhibits an expression-driven spatial character, defined by monumental scale, decorative richness, formal sequencing, and the use of imported materials, aligning with its role as a royal residence and leisure retreat within a landscape-dominated setting.

This comparison highlights a clear transition in interior architectural expression influenced by both time period and functional requirements. The findings emphasize that heritage interiors must be understood as responsive spatial systems rather than static aesthetic compositions. Such an understanding is critical for guiding conservation strategies and adaptive reuse practices that respect the original intent, context, and experiential quality of historic spaces.

Why This Study is Important

We often look at heritage buildings and admire how they look, but rarely think about *why they are designed that way*. This study is important because it shifts the focus from just visual appreciation to understanding the logic behind these spaces.

By comparing Rajwada and Lal Baug Palace, the research shows that interiors are not random or purely decorative they are shaped by purpose, time, and context. An administrative space demands efficiency and control, while a residential palace allows openness, richness, and experience. Recognizing this helps us read heritage spaces more meaningfully.

This understanding becomes especially valuable today, when many historic buildings are being reused or restored. Instead of copying styles or making superficial changes, designers can make better decisions by respecting how the space was originally meant to function.

In simple terms, this study helps bridge the gap between *looking at heritage* and *understanding it*, making it more relevant for both designers and conservation practices today.

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