

Architectural Design Research Historical and Theoretical Approaches

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ABSTRACT

Historical and theoretical approaches in architectural research provide critical frameworks for understanding the evolution of built form, cultural identity, and design philosophy. These methodologies emphasize the analysis of archival records, visual documentation, literature, and precedents to trace architectural transformations across time and geography. By applying interpretative tools such as hermeneutics, semiotics, and discourse analysis, researchers uncover the underlying social, cultural, and political narratives that shape architecture. Unlike purely technical or functional studies, historical and theoretical methods address questions of meaning, symbolism, and context, offering insights into how architecture communicates values and ideologies. This research methodology not only aids in preserving architectural heritage but also informs contemporary practice by connecting present design challenges with lessons from the past. Ultimately, historical and theoretical approaches enrich architectural inquiry by situating design within broader humanistic, cultural, and intellectual traditions.

KEYWORDS: Architectural history, Theoretical frameworks, Hermeneutics, Semiotics, Discourse analysis, Cultural identity, Symbolism in architecture, Architectural heritage, Design philosophy, Humanistic approaches

INTRODUCTION

Historical approaches in architectural research involve the systematic study of past buildings, cities, and design movements through archival records, visual documentation, and material evidence. Such methods help to trace the evolution of architectural styles, construction technologies, and spatial organization. Theoretical approaches, on the other hand, interpret architecture through lenses such as philosophy, semiotics, hermeneutics, and critical theory. They aim to uncover the meanings, narratives, and ideologies embedded in architectural form and practice.

Together, historical and theoretical research methodologies enrich architectural inquiry by bridging past and present. They enable scholars and practitioners to not only preserve and reinterpret architectural heritage but also to apply lessons from history and theory to contemporary design challenges. In doing so, these approaches highlight architecture's role as both a material and intellectual discipline, shaped by context and continuously redefined through time.

LITERATURE REVIEW

Research in architecture has evolved from purely practice-based knowledge to more systematic, theory-driven inquiry. Historical and theoretical approaches in research methodology provide architects with frameworks to critically analyze, interpret, and contextualize architectural knowledge within cultural,

social, and temporal dimensions.

Historical Approaches in Architectural Research

Historical research in architecture focuses on studying built environments, styles, construction methods, and cultural contexts of different periods. Scholars like Spiro Kostof (1995) emphasized the role of architectural history in understanding urban and cultural transformations, suggesting that history is not a static record but an evolving narrative. Similarly, Nikolaus Pevsner (1943) positioned architectural history as a means of identifying stylistic evolution, which helps architects interpret past design practices in contemporary terms.

HISTORICAL AND THEORETICAL APPROACHES

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Theoretical approaches used in architectural research

Theoretical frameworks guide interpretation and generate testable propositions or new readings of architecture. Important families of theory applied in architectural research include:

Formalism and compositional theory — analysis of form, proportion, and spatial composition (Colin Rowe's comparative/analytical methods are a prime example). Formal analysis remains central to design-based arguments.

Phenomenology — attention to embodied experience, atmosphere, light and place; used to link sensory experience to architectural meaning. (Appears widely in design-based and humanities research.)

Semiotics and discourse analysis — reading buildings as signs; employed in post-modern and critical readings (e.g., Charles Jencks' analyses of symbolism).

Relation between history, theory and method

A recurring methodological theme in the literature is that theory and method are mutually informing: theory suggests what to look for in archives or in the field; historical findings can confirm, problematize, or refine theory. Groat & Wang stress connecting theory to method explicitly—choosing methods consistent with theoretical commitments (e.g., phenomenology → sensory, qualitative methods; critical theory → political economy and archival policy analysis).

HISTORICAL APPROACH

Typological history rather than stylistic history Traditional architectural history is organized by style:

Gothic → Renaissance → Baroque → Modernism. 2 .Emphasis on the 18th–20th centuries

Pevsner , an author of the book "A history of building types" acknowledges that many functional

building types (factory, train station, department store, museum) are modern inventions.

Thus, his historical scope focuses especially on:

The Enlightenment

Industrial Revolution

Modern capitalist urban society

These periods saw rapid increases in civic institutions and new building needs.

Architecture shaped by social and technological change For each type, he shows how architecture changes due to:

Social factors

Rise of democratic civic institutions → government office buildings

Changing penal philosophies → prison design

Advances in medical science → hospitals

Literacy and public education → libraries and universities

Evolution through “functional necessity”

Pevsner traces how forms develop to resolve functional problems:

prisons evolve from fortress-like to radial or panopticon plan factories shift from mill construction to steel-frame “daylight factories” museums progress from private collections to public buildings with rational circulation This is a problem-solving historical model, influenced by modernist thought.

THEORETICAL APPROACH

Typology as the central theoretical method

The core of the book is architectural typology—the classification of buildings by use. For Pevsner:

Type = function + customary form

A “type” is not a single style; it is a continuity of:

spatial patterns

socially understood meanings

repeated functional solutions

Form follows function (but not purely)

Pevsner is influenced by the modernist belief in the primacy of function, but he also acknowledges:

historical symbolism

stylistic inheritance

aesthetic intentions For example:

banks borrow Renaissance palazzo forms to communicate stability

prisons use fortress images to signal authority

Thus, his theory rejects a purely functionalist or technological determinism.

Architecture as a cultural sign system

Though he is not a semiotician, Pevsner adopts a cultural-symbolic view of architecture:

buildings communicate status, power, safety, morality

society uses architecture to project identity

This theory underlies his discussions of museums, banks, courthouses, and government buildings.

A Modernist-humanist perspective

Pevsner was a champion of modern design, but also a historian of tradition. His theoretical position is: modernist in its attention to function and rationality

humanist in its concern for meaning, heritage, and public life

He sees building types as expressions of civilization, not merely technical objects.

Exclusion as theoretical strategy

Pevsner excludes churches and domestic buildings from his typology. Theoretically, this helps him define:

a public architecture typology

the role of civic buildings in modern culture

This is a conceptual decision, not a historical limitation.

Historical approaches basically rely on original materials that document architectural practice, society, and design in a specific time.

Architectural Drawings

Original plans

Sections, elevations

Sketches

Working drawings

Concept drawings

These come directly from architects or builders.

Built Structures (The Buildings Themselves)

Physical buildings

Construction materials

Spatial organization

Structural systems

The building is itself a primary source of historical information.

INTERVIEW

How do you define the historical approach in architectural studies?

The historical approach in architectural studies is defined as the method of understanding architecture by examining it within the context of its own time.

It focuses on how buildings reflect the social, cultural, political, economic, technological, and artistic conditions of the period in which they were created.

How are theoretical approaches different from historical approaches in architecture? Historical Approach

Aims to understand architecture in its own time.

Focuses on what happened, why it happened, and how architecture evolved. Theoretical Approach

Aims to explain ideas, meanings, principles, and concepts behind architecture.

Focuses on how we interpret architecture or how architecture should be designed.

How do you define the historical approach in architectural studies?

The historical approach in architecture is the method of understanding buildings by examining them within the social, cultural, political, technological, and economic conditions of the time in which they were created. It studies architecture as a product of history, focusing on how and why architectural forms, styles, construction methods, and spatial ideas evolved over time.

How do you define the historical approach in architectural studies?

In your opinion, why is studying architectural history important?

Which types of primary sources do you rely on when studying architectural history?
How do social, cultural, political, or technological factors influence architectural forms?
Can you give an example of a building or period where history directly shaped architecture?
What challenges do you face when interpreting historical buildings in contemporary research?
How do you define the theoretical approach in architectural studies?
Which architectural theorists or movements have influenced your understanding of architecture?
How does theory help in analyzing or designing buildings?
Do you think philosophical or conceptual ideas are as important as practical considerations in architecture? Why?
How do you apply theoretical frameworks when evaluating historical or contemporary buildings?
How do you define the theoretical approach in architectural studies?
Which architectural theorists or movements have influenced your understanding of architecture?
How does theory help in analyzing or designing buildings?
Do you think philosophical or conceptual ideas are as important as practical considerations in architecture? Why?
How do you apply theoretical frameworks when evaluating historical or contemporary buildings?
17How do architects use historical knowledge in contemporary design?
How do theoretical concepts influence architectural decision-making?
Do you think modern architects rely too much or too little on theory? Explain.
How should students balance learning architectural history and theory with practical design skills?
Any additional comments on the importance of historical and theoretical approaches in architecture?

PURPOSE OBSERVATION

To understand architecture in its historical context.

To gather evidence of construction methods, materials, spatial organization, and stylistic features.

To interpret how buildings reflect social, cultural, and technological conditions of their time.

Methods

Site Visits / Field Study

Examine original structures for materials, design, and layout.

Example: Observing Gothic cathedrals to study structural techniques like flying buttresses.

Photographic Documentation

Capture details that may not be available in texts.

Example: Photographing facades, ornamentation, or urban context.

Drawing and Sketching

Manual sketches or measured drawings of historical buildings.

Example: Sketching the plan of a 19th-century factory to understand functional layout.

Comparative Observation

Compare buildings from different periods or regions to identify patterns of evolution.

Example: Comparing medieval town halls in Europe to understand civic architecture development.

Observation in the Theoretical Approach

Purpose

To understand concepts, principles, and meanings behind architectural design.

To study symbolism, form, proportion, and spatial experience.

To interpret how theoretical frameworks are applied in real-world buildings.

Methods

Experiencing Space

Observing how people interact with a building.

Example: Walking through a modernist museum to analyze circulation and spatial hierarchy.

Noting Design Principles

Record use of symmetry, modularity, proportion, or functional zoning.

Example: Observing Le Corbusier's use of the Modulor system in building design.

MAPPING

Mapping in the Historical Approach Purpose

To understand architecture in its temporal and cultural context.

To trace the evolution of building types, styles, and urban forms.

To analyze spatial patterns, historical connections, and site relationships. Methods

Chronological Mapping

Mapping buildings or urban areas according to their construction period.

Example: Mapping 18th–20th-century civic buildings in a city to visualize growth of public architecture.

Typological Mapping

Mapping according to building types (palaces, museums, factories, hospitals).

Example: Mapping train stations in Europe to analyze the spread of industrial architecture.

Historical Context Mapping

Including social, political, and technological factors.

Example: Mapping locations of colonial-era buildings alongside historical trade routes.

Material/Construction Mapping

Identifying building materials or structural techniques across sites or time periods.

Example: Mapping the use of steel-frame construction in early 20th-century factories.

Mapping in the Theoretical Approach Purpose

To visualize concepts, principles, and spatial ideas.

To study relationships between theory and design implementation.

To explore proportions, geometry, and symbolic meanings. Methods

Conceptual Mapping

Diagramming the theoretical ideas behind a building or urban plan.

Example: Mapping the circulation and functional zoning in a modernist building to reflect Le Corbusier's theories.

Mapping human movement, sightlines, or experiential pathways.

Example: Mapping how visitors move through a museum to study the application of phenomenological theory.

Symbolic Mapping

Visualizing symbolic, ideological, or philosophical aspects.

Example: Mapping axis lines and orientations in a sacred temple to demonstrate cosmological theory.

The Bauhaus Dessau Building (Walter Gropius, 1925–26, Germany)

The Bauhaus Dessau is a seminal work of modernist architecture and a milestone in 20th-century design education. Designed by Walter Gropius, it embodies the Bauhaus philosophy of uniting art, craft, and

industrial production. This case study examines the building using historical and theoretical approaches, reinforced with observation and mapping.

Historical Context

Constructed in interwar Germany, during the Weimar Republic, a period of social, cultural, and technological reform.

The Bauhaus school aimed to redefine education in art and design, integrating practical workshops with theoretical teaching.

The political and economic environment emphasized modernization, functionalism, and social equality, which influenced the building's form and organization.

Architectural Typology and Function

Functionally organized: Workshops, classrooms, administrative offices, dormitories, and communal spaces.

The building type reflects educational innovation, combining living, learning, and creating under one roof.

Separation of spaces by activity is a response to rational and functional planning needs.

Materials and Construction

Materials: Reinforced concrete, steel frames, and glass curtain walls.

Construction technique: Industrial modernist methods, enabling large spans, open interiors, and flexible layouts.

Significance: Demonstrates adaptation of industrial materials to educational architecture, a hallmark of modernism.

Cultural and Stylistic Significance

Modernist aesthetic: Minimal ornamentation, geometric volumes, functional clarity.

Symbolism: Transparency and openness reflect collaboration, equality, and pedagogical philosophy.

Historical impact: The building influenced schools of design worldwide and became a landmark of modernist architecture.

Design Philosophy

Embodies modernist principles: "Form follows function," rational organization, and integration of technology.

Emphasis on clarity, transparency, and functionalism aligns with Bauhaus theoretical ideology.

Spatial Organization

Workshop wing, classroom wing, dormitories, and administrative areas arranged as separate but interconnected volumes.

Circulation designed to promote interaction, reflecting social and pedagogical theory.

Conceptual Significance

Glass curtain walls symbolize openness and democratic ideals.

Modular planning reflects rational design thinking.

Gropius' writings link architectural form directly to educational and societal values.

Findings

Historical Perspective: Bauhaus Dessau reflects Germany's interwar modernist movement, social reform, and technological innovation.

Theoretical Perspective: The building realizes modernist principles, including functionalism, rational planning, and the integration of art and technology.

Integration: Historical context explains the why of its creation, while theoretical analysis explains the how and meaning of its design.

Integration of History and Context:

The Bauhaus Dessau reflects the social, cultural, and technological context of interwar Germany.

It embodies the educational and social reforms of the Weimar Republic, addressing the needs of a modern industrial society.

Application of Theory in Practice:

The building demonstrates modernist theoretical principles such as functionalism, transparency, rational planning, and modularity.

Architectural form and spatial organization are directly informed by conceptual and pedagogical ideas of the Bauhaus school.

Innovative Use of Materials and Construction:

The use of steel frames, reinforced concrete, and glass curtain walls represents the technological advancements of the 1920s.

Material choices support both functionality and aesthetic clarity, reinforcing the theoretical ideals of modern architecture.

Spatial and Experiential Insights:

Observation of circulation, daylight, and open volumes shows how design enhances human experience, learning, and collaboration.

Historical Approach in Architecture

Focus Areas

Evolution of building types, styles, and construction methods over time.

Influence of society, politics, economy, and culture on architectural decisions.

Documentation and interpretation using primary sources (plans, archival records, photographs, and the building itself).

Strengths

Provides contextual understanding of architecture.

Reveals trends, patterns, and shifts in building forms and urban planning.

Helps trace the development of architectural thought and technology. Limitations

May focus heavily on chronology, sometimes overlooking conceptual or experiential aspects.

Can underemphasize symbolic, philosophical, or theoretical meanings embedded in design.

Theoretical Approach in Architecture

Focus Areas

Spatial organization, proportions, and geometry.

Symbolism, meaning, and philosophical underpinnings.

Design principles such as function, form, aesthetics, and social ideology.

Critical analysis of architectural theories and manifestos. Strengths

Provides insight into conceptual intentions and design philosophy.

Connects architecture to cultural, social, or philosophical ideas.

Guides architects in future design by exploring theoretical frameworks. Limitations

May be abstract, sometimes overlooking practical or historical constraints.

Can be speculative, relying heavily on interpretation rather than empirical evidence.