

## Between Modernism and Postmodernism- A Comprehensive Study on the Works of Louis I. Kahn

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### Abstract

Louis I. Kahn (1901-1974) was the most prominent architect of the 20<sup>th</sup> century, there has been a relatively little critical study of his work. As a contemporary architect, Kahn has struggled with history, culture, and the physical environment as influences for his design. Kahn's work has inspired leading contemporary architects including Renzo Piano, Tadao Ando, Mario Botta Moshe Safdie, and Norman Foster. Although considered a modern architect, Kahn admitted towards the end of his life that his university education in fine arts under Paul Cret had a major influence on his architectural design abilities. Louis Kahn's work presents a more balanced overall approach to architecture through form and structural integration. Modern architecture, emphasized on pure functional buildings with no historical reference to which postmodernism was reaction in architecture. the work of Kahn expanded modern architecture, with an emphasis on a visible style of construction before postmodernism crystalized the idea. This article aims to analyze and discuss Louis I. Kahn's aspirations and design techniques. This research is necessary because much of today's architectural work lacks a balanced emphasis on formal and structural expression.

**Keywords:** Louis I. Kahn; Classical Architecture; Order; Ruins; timelessness in Architecture.

### 1. Introduction

Louis I. Kahn (1901-1974) was the most prominent architect of the 20<sup>th</sup> century, there has been a relatively little critical study of his work. His work expanded modern architecture, with an emphasis on a visible style of construction. the subtlety, stoicism, and significance of Louis I Kahn's expressive involvement must be: "a kind of sharp reminder of what we have lost" (Stern,1986). From the 1950s onwards, the work of Louis Kahn had a dominant influence on architecture. As architect James Stirling said, "It is appalling what students talk about in American architecture schools today- Derrida, indeed! Why doesn't anyone study Kahn?" (McCarter, 2005). Vincent Scully, who had written a book about Kahn in 1962, mentioned "No one can sum up Louis I. Kahn" (Scully, 1962). Moshe Safdie in his Book "Moshe Safdie" noted, "Kahn spoke of the qualities of calmness that breed contemplation, he was obsessed with the interdependence of communal work and individual work, with the balance between privacy and community." (Safdie, 2009). As a contemporary architect, Kahn has struggled with history, culture, and the physical environment as influences for his design. Paul Cret, who was Kahn's most influential teacher,

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believed that modern architecture with the proper combination of elements, architecture can make more sense as opposed to referring to an accepted stylistic approach.

Kahn's work has inspired leading contemporary architects including Renzo Piano, Tadao Ando, Mario Botta Moshe Safdie, and Norman Foster. Structural clarity, a logical composition in architecture, the accuracy, visually separable into its fundamental components, these were all the concepts important to the work of Louis I. Kahn (Kahn, 2022). The exceptional style of his architecture like of a mysterious narrative which were difficult to infer, and produced chaos in critics and historians (Barizza & Falsetti, 2018).

Although considered a modern architect, Kahn admitted towards the end of his life that his university education in fine arts under Paul Cret had a major influence on his architectural design abilities. A careful study of the history of architecture shows that from the time of the Renaissance, architecture mostly focused based on stylistic expression, as a result, ample attention is given to the formal and geometric elements of design, such as Baroque and Neo-classical architecture.

After Industrialization, especially by increased up-to-date technology practice, material, and skeleton systems, structural characterization has become an important factor of style standards. This style expresses a lack of balance between form and Structure and the emphasis continue to be on the tectonic. Indeed, one of the main criticisms of the postmodernist philosophy about modernism is the reduction of architecture into mechanical and functional expressions.

Louis Kahn's work, on the other hand, presents a more balanced overall approach to architecture through form and structural integration. This article aims to analyze and discuss Louis I. Kahn's aspirations and design techniques. This research is necessary because much of today's architectural work lacks a balanced emphasis on formal and structural expression. The work of Louis Kahn along with his descendants is an example of form and structure integration in architecture in a holistic way.

### **1.1 Statement of The Problem:**

In today's complex world where everything is changing rapidly; new forms and designs emerge deconstruction, high tech, and pluralism. Due to the availability of new materials and technology very exaggerated designs from various architects could be frequently observed, which couldn't be imagined before. The problem is if we continue in the same manner, of freestyle; a pluralism that will not lack cultural tradition or history and social context but rootedness in its architecture and order.

Therefore, it becomes very relevant to analyze, understand and learn about the works of architects who have had a profound impact on modern architecture, but has created a distinct work and achieved timelessness in architecture. This aspect of Kahn's work makes him extremely relevant even today.

### **1.2 Aims and Objectives:**

This study aims to explain the contributions of Louis I. Kahn in a comprehensive way for a better understanding of young architects and architectural students.

The following are the objectives of this research.

To explore the underlying aspiration of Louis I. Kahn's work.

To explain the relevance of Kahn's work for today's architecture.

## **2. Methodology:**

This study adopts a mixed method of research using explorative and case-study techniques. The research is based on primary data available for the understanding of Kahn's philosophy of work. In the second step, these concepts and roots are graphically explained in his works.

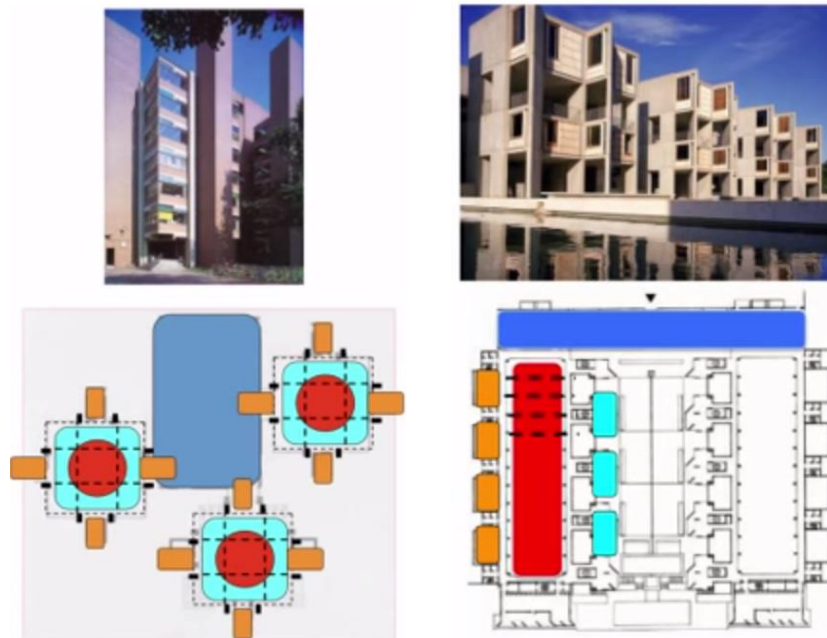
## **3. Kahn's sources of inspiration (An Analysis)**

The work of Louis I. Kahn represents the fusion of seemingly contradictory sources, which makes him very difficult to categorize his work into a specific style or group. The work can be analyzed from the following perspectives.

### **3.1. Beaux-Arts influenced architectural education**

The Beaux Arts style (1890-1920) in Paris, focused on the study of classical composition, structures, and symmetry as the basis of architecture. Kahn completed his architectural studies in 1920 at the University of Pennsylvania, where Paul Philippe Cret a graduate of L'Ecole was an instructor (1903 to 1937). The university was recognized as providing architectural education on the pattern of Ecole des Beaus Arts in Paris. The concept of served and servant spaces (breaking classicism and inheriting the tradition of fine arts) would affect nearly all his buildings. As Venturi Demanded, "The house started more like Kahn. After all, I was young, and he was influential." (Schwartz, 1992). Also, the impact is deceptive in Louis I Kahn's usage of served and servant spaces, "The idea of servant space was a beautiful idea that influenced me much (Rodell, 2008). The following figures show the concept of served and servant spaces. Spaces colored orange represents stairs and services ducts are the servants to the main function of laboratories.

Figure.1 (a) Richards Medical Research Laboratories (b) Salk Institute



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Although Louis Kahn was not committed to axial design bias, a great number of designs by him display geometry and axis (Whiffen & Koeper,1983). He also noted fine arts learning influence on his teaching approaches. He emphasized that “the sketch depends on our intuitive power. But the intuitive power is probably our most accurate sense. The sketches depended on our intuitive sense of appropriateness. I teach appropriateness. I don’t teach anything else.” (Kahn & Latour, 1991). The reaction to the Beaux-Art was Modernism, which rejected monumentality and celebration of the past. Modernism wanted to create a universal culture based on science and not the past. “If it is a monument, it is not modern, and if it is modern, it cannot be a monument.” (Mumford,1937)

### 3.2. Rome and the Power of Ruins

In 1950, Kahn was selected as a resident architect in Rome at the American Academy, where he toured vernacular arrangements of medieval Italian hill towns, which motivated him to plan and design the Richards Medical Research Building at the University of Pennsylvania (1957-61). Moreover, he developed the idea of hierarchically arranged compositions, symmetrical, and monumentality, in most of his designs. This achievement is termed timelessness whereas others had resorted to historicism. In the same period, he also visited the Roman buildings which were stripped down to the pure structure mass, with no signs of decoration. Below image shows Kahn’s drawing of eliminated everything that would indicate scale, time, or use, a style characteristic of his later architecture. This effect can be seen in later buildings of Kahn specifically the ones built in India and Bangladesh.

Figure.2. Kahn’s drawing of the piazza del campo in Siena. source: (Scully,1993)

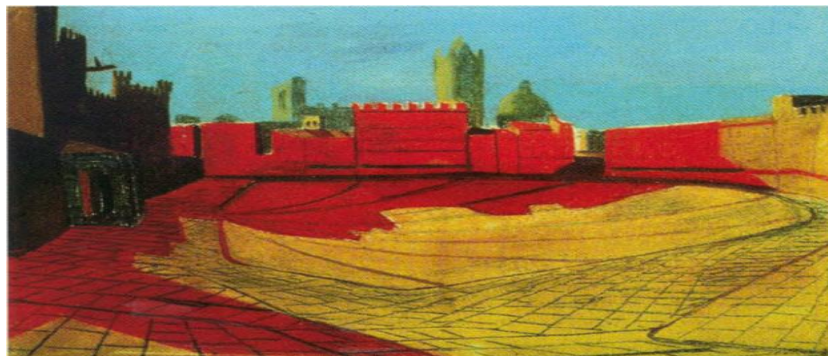


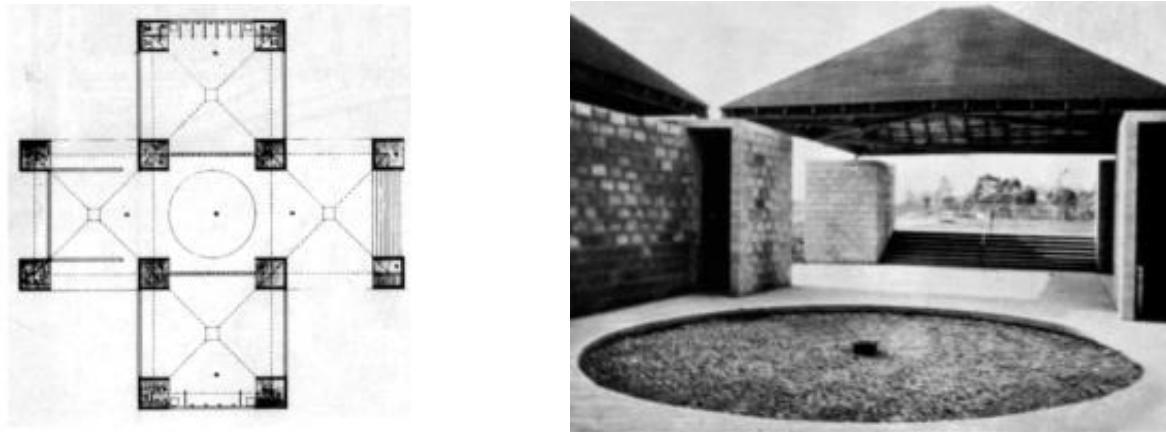
Figure.3. Housing for officials at Sher-e- Bangia Nagar, Capital of Bangladesh (1962-83), Dhaka has no sign of size or function; glass is suppressed behind the voids cut in the cylindrical "ruins."



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Louis I Kahn's "monumentality in architecture may be defined as a quality, a spiritual quality inherent in a structure which conveys the feeling of its eternity, that it cannot be added to or changed." (Brownlee & De Long, 1991). Kahn accepts the usefulness of history "Monumental structures of the past, have the common characteristics of greatness upon which the building of our future must, in one sense or another, rely" (Brownlee & De Long, 1991). In particular, he possessed the "structural skeleton" of Gothic architecture and the "spiritual qualities" required of monumental architecture initially in the form of Roman domes, vaults, and arches "etched itself in deep furrows across the page of architectural history" (Brownlee & De Long, 1991). Against this backdrop, Kahn has always expressed Roman architecture as a living modern tradition. He criticized modern architectural practice for emphasizing the possibilities of the structure while drawing structural lessons from historicism.

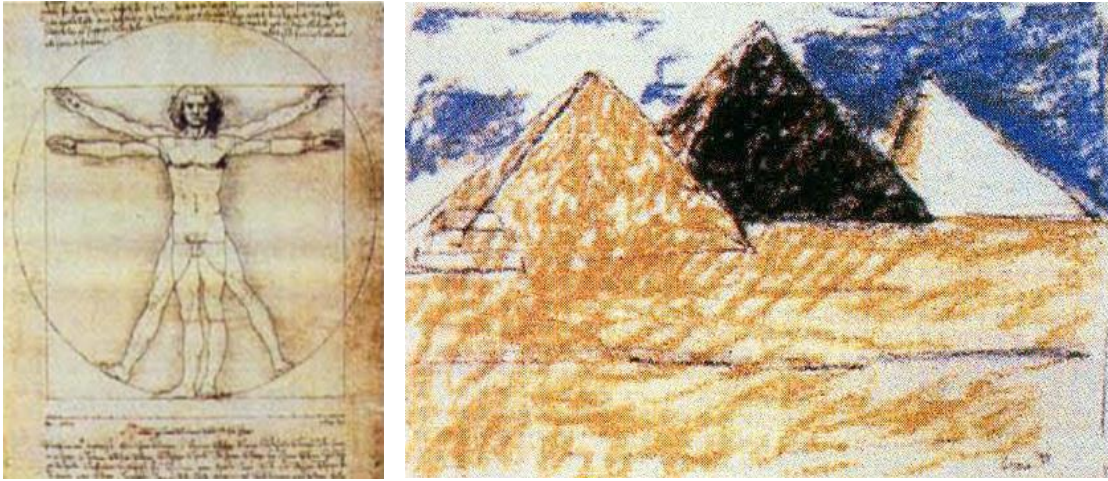
Figure. 4 (a) Plan and (b) Perspective view of The Bathhouse at the Trenton Jewish Civic Center (1954-59)



These ideas developed with his use of "hollow space in tubular structures and the structural continuity and graceful form possible with reinforced concrete" (Wright & McCarter, 2005). During the period of his visit to the American Academy located in Rome, Kahn also visited Greek buildings and Egyptian pyramids. In the Baths (1954-59) at the Trenton Jewish Community Center, Kahn used the Neoplatonic order of circles and squares, exemplified by Leonardo da Vinci's famous perfect proportions and pyramids. (ca. 1500).

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Figure.5. (a) Leonardo's Man of perfect proportions (ca. 1500) (b) Kahn's Sketch of Pyramid in Egypt. source: Scully, V. (1993)



### 3.3. The order

Kahn looked back to eighteenth-century sources, in which common visualization of architecture was inspired, this is similar to what Crete applied to design. (Whiffen & Koeper, 1983). As McCarter identified in the book "Louis I. Kahn" in 2005, "it is important to remember that, this tradition of plan-making, drawn directly from the monuments of antiquity. Wright argued, "axes and symmetry belonged to no architectural style, but were a fundamental part of human nature" (Wright & McCarter, 2005). Furthermore, such as in 1923 Le Corbusier confirmed in his book "Towards a New Architecture", "architecture is based on axes" and "plans are generators", neither plans nor axes are strictly subject to the Academy of Fine Arts and limitations of formal methods. (Corbusier, 2013).

Combining structural rationalism with classical functionalism, this style is a new approach to architecture, as it is at the heart of architectural features derived from the nature of materials. As a result, each material has a unique formal identity, and structural balance has a dramatic effect on the structural form, allowing buildings composed of different materials to express different forms. (Ford, 2003). Viollet-Le-Duc devoted the second book of "Entretiens" to structure, almost fifty years earlier Louis I Kahn taking place his architecture studies (1920). Not only does he review current practices, but he also proposes a structurally logical mix of steel and masonry effects (Wright & McCarter, 2005). Kahn uses the fancy shapes of all these classic models but avoids direct reference to obvious classic details like most architects involved in the classical revival. He wanted to remain mysterious, obscure, and timeless. No domes, no columns only arches, Symmetry, Walls, and Barrel vaults. He calls this way order; the underlying principle of something's existence.

Kahn agrees with modernists about not imitating the past but rejects the materialism of modernism. Kahn says that "It was not monumentality (rootedness in the European past) that Modern Architecture was lacking but Order— a rootedness in its own nature". Kahn conceived of Order in

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two ways. The first was by questioning. One can realize in a given instance of expressive dialogue using bricks; “Brick, what do you like”. But it's not just limited to bricks. It can be applied to any material or anything in nature. He also began to devise similar problems; e.g. “What does this building want to be?” (Lobell & Kahn,1979).

### **4. Conclusion:**

Louis I Kahn’s architecture shows a large array of contradictory sources of inspiration which make him very difficult to link to a particular source. He worked in a time when modernism was fading away and postmodernism was paving its way forward but Kahn took another way, the way of architecture. He struggled for an architecture of meaning, reference, and roots. He traveled, observed, and absorbed the classical references. He abstracted architecture from its roots, its nature, and its materials. Although his works used beaux-Art inspiration and the Ancient Ruins in a stripped-down fashion (very different from the Stripped classicism of his time) which makes him difficult to be linked to the mentioned style. The strongest part of Kahn’s work shows the very strong basics of architecture (the nature of Architecture and the nature of the materials with which he worked). Kahn used classics from the perspective of timelessness, to which he never directly linked his work. The philosophy of Kahn's work was ordered, the underlying principle of something existence, which he used in many of his designs.

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