Exeter Academy Library is the embodiment of Louis Kahn’s theory of Silence and Light. Exeter starts with the unmeasurable desire to be, passes through measurable means and ultimately ends with the unmeasurable expression of the poetic image.

The starting point at Exeter Library is the institution of Library. The institution of Library is expressed through the harmonious ordering of measurable elements. Ultimately, the ordering of space, light, structure, and materials transcend their material properties and elevate Exeter into the realm of poetic experience.

The duality between Silence and Light directly parallels Gaston Bachelard’s phenomenology of the poetic image by drawing a distinction between the real and the unreal (fig. 1.1). It is Bachelard’s view that the impact of the poetic image depends on the cooperation between two functions of the human psyche, the function of the real and the function of the unreal. In The Poetics of Space, Bachelard searches for the phenomenology of poetry and outlines specific images that are consistently seen as poetic archetypes. Bachelard’s archetypes of roundness, the dialectics of inside and outside, and the notion of immensity are all experienced in Exeter through Kahn’s ordering of space, light, structure, and materials.

**Silence and Light**

Louis Kahn’s theory of Silence and Light is an explanation of the relationship existing between the spirit of things, and the manifestation of that spirit into the objective world (fig. 2.1). According to Kahn, Silence is the unmeasurable desire to be.¹ “It is not

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a desire that already exists; it is a desire that grows towards existence.”² Silence is the unmeasurable essence that exists before something has come into being. Light, on the other hand, is found in the very act of being. Light is the measurable giver of all presence, the measure of things already made.³ Light is the tangible world. This explanation of the relationship between silence and light is a relationship between measurable and unmeasurable.

Kahn defines the duality between the measurable and the unmeasurable by separating the creative act into two realms. One, the inner realm of the soul, the psyche, contains all that is unmeasurable. The other, the measurable, is the realm of the phenomenal world, the realm of sensible things. He identifies the mind as the center of the unmeasurable, and the brain as the center of the measurable. The threshold where the unmeasurable desire to express, meets the measurable potential of the objective world, is the point of inspiration that Kahn denotes as the Sanctuary of Art, i.e. The Treasury of Shadow (fig. 1.1) (fig. 2.2). Kahn expresses these notions in poetic imagery:

“Silence to Light
Light to Silence
The threshold of their crossing
Is the Singularity
Is the Inspiration
Where the desire to express
Meets the possible
Is the Sanctuary of Art
Is the Treasury of the Shadows…”⁴

Fig. 2.1 Kahn’s 1968 diagram of the relationship that exists between Silence and Light.

Fig. 2.2 Kahn’s 1972 diagram of the relationship that exists between Silence and Light.

³Lobell 20.
The place where the Silence and Light meet, inspiration, parallels Bachelard’s notion of the imagination. Bachelard poses the problem of the poetic image by studying the phenomenon of the imagination “…when it emerges into the consciousness as a direct product of the…soul and being of man.” Bachelard goes on to quote Pierre-Jean, “…poetry is a soul inaugurating a form.” This connection between soul and being is also found in Kahn’s theory of Silence and Light. Bachelard calls the intersection of soul and being imagination. Kahn denotes the intersection between Silence (soul) and Light (being) as inspiration. According to Kahn, inspiration is the point when the need to express, a product of the soul, meets the possible being of man.

The most poetic aspect of Kahn’s theory, essential for our investigation into Exeter Library, is the inverse relationship that exists between Silence and Light. A similar notion is found in Bachelard’s study of the poetic image. According to Bachelard “…the duality of subject and object is iridescent, shimmering, [and] active in its inversions.” This inversion is the point where Light ultimately returns to Silence, completing the poetic image. According to Kahn, all buildings start in the unmeasurable realm, pass through measurable means, and ultimately end in an unmeasurable state.

This means that before an object is present in the measurable world it exists in an unmeasurable state by means of its existence will. In order for the existence will to be realized it must be given presence through measurable means such as space, light, materials and structure. Ultimately, if the object is a projection of the existence will it transcends measurable properties and returns to an unmeasurable state. The return of space, light, materials and structure to an unmeasurable state lifts Kahn’s theory of Silence and Light into the realm of poetry.

In order to convey the essence of what a particular institution should be, Kahn looks at what its original purpose is for man. This is the beginning in Kahn’s form-diagram (fig. 4.1). Form is the realization of a nature, coming from the idea of an institution. Form is

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6Ibid xix.
7Lobell 44.
8Ibid 44.
what.” It encompasses a harmony of systems, a sense of order, and that which distinguishes one institution of existence from another. Design is “how.” Design takes the idea of an institution into a physical presence. It is the realization of the work. Thus, Kahn’s idea of an institution becomes the beginning in the form of the building (fig. 1.1).

“A man with a book goes to the light. A library begins that way. He will not go fifty feet away to an electric light. The carrel is the niche which could be the beginning of the space order and its structure. In a library the column always begins in light.Unnamed, the space made by the column structure evokes its use as a carrel. A man who reads in seminar will look for the light but the light is somewhat secondary. The reading room is impersonal. It is the meeting in silence of the readers and their books.

“...It is a searching out of library, its spirit; of that it stores, imparts; of the accumulated wisdom it stewards, of the spontaneous encounters it allows; of needs of people who may, because of its presence, gain presence.” Kahn’s conception of this gaining presence is related to the onset of Bachelard’s poetic experience. It is here, that the “poetic image places us at the origin of the speaking being,” and that the “imagining consciousness proves to be, very simply but very purely an origin.”

The institution of a library is formed by the interaction of the book and the reader. Kahn was concerned with how the person and book come together. “Every book is a very, very personal kind of contact, a relationship,” and upon entering, the library becomes “a place where the world is put before you through the books.” A great hall, lit from above, allows an initial view of the books. In darkness, they rest until taken. At the periphery, a man with a book goes to individually lit reading carrels in the light.

9Lobell 28.
10Ibid 18.
13Bachelard xxiii.
14Ibid xxxv.
The large space, the small spaces, the unnamed spaces, and the spaces that serve. The way they are formed with respect to light is the problem of all buildings. This one starts with a man who wants to read a book (fig 5.1).  

Order

According to Bachelard, “It is impossible to receive the psychic benefit of poetry unless…two functions of the human psyche—the function of the real and the function of the unreal are made to cooperate.” One can use Kahn’s terminology to illustrate the same principle: the impact of the architectural object depends on the ability of Silence and Light to reach a harmonious balance. Kahn calls this harmonious balance Order.

Fig. 5.1 The reading carrels in Exeter Library are a direct manifestation of Louis Kahn’s notion of the beginning of a library, “a man with a book goes to the light...”

The ability for Form to take place in the objective world is dependent on Order. We find tangible examples in order of space, light, structure, and materials. “Realization is realization in Form, which means a particular nature; you realize that something has a particular nature.” The adherence to the nature of thing gives an intuitive sensing of a harmony between systems. A harmony of systems is a sense of order and the essence of the poetic experience (fig 5.2).

In Exeter Library the cooperation of the real and the unreal are manifested in the ordering of space, light, materials and structure. These elements are ordered in a way to create a poetic experience which we will discuss in depth later. Kahn speaks of the realization of order as it concerns the experience of poetry, “Realization cannot come to us except thru its introspection in the thoughts and feelings of others.” The thoughts and feelings of others enable the ordering of systems to cross into the realm of poetry. Kahn’s ordering principles are a reflection of his first thoughts about the origin of man’s institutions. These institutions stem from Kahn’s intuitive reading of the thoughts and

Fig. 5.2 The floor plans and section of Exeter Library are a harmonious ordering of various systems.


16 Bachelard xxxv.

17 Tyng 40.

18 Tyng 112.
feelings of others. Therefore, the realization and ordering of the unmeasurable institution creates the poetic experience through measurable means. In Exeter, the order of space, light, material and structure can be examined in terms of poetic experience.

Again, for a critique of the poetic image, we turn to Bachelard. He discovers an approach to study the poetic image, a phenomenology of the imagination. According to him, imagination is the meeting point between the real and the unreal, and according to Kahn, imagination is called inspiration, the meeting of Silence and Light. Bachelard’s study of the poetic phenomenon can be further linked to Kahn’s theory of Silence and Light by applying this quote from Bachelard to Kahn’s theory:

"In a study of the imagination, a phenomenology of the poetic imagination must concentrate on bringing out... [the] quality of origin in various poetic images." 19

Applying his notion to Silence and Light, we can deduce that Kahn’s goal of expressing form through design is a search for the poetic image. That is to say, in a study of inspiration, a phenomenology of the poetic image must concentrate on bringing out the Form of Institution through the order of design.

Although Bachelard speaks of the poetic image in literary terms, architecture has the opportunity to not only present a poetic image, but to set forth the poetic experience. Kahn’s architecture sets to motion poetic images, into a harmonious system of linked poetic archetypes. In his phenomenology of the imagination, Bachelard identifies poetic archetypes that speak to man’s soul. Among them are the notions of Immensity, Roundness, and the Dialects of Inside and Outside. These three poetic archetypes can be found in an analysis of Exeter Library through a reading of ordering of space, light, materials and structure.

Dialectics of Inside and Outside

Bachelard’s archetype of the dialectics of inside and outside is experienced in Exeter through Kahn’s ordering of space. Because Bachelard defines inside and outside as a “here” or a “there,” or a “this side” or “beyond,” everything takes form in being. If something is not in one realm, than it is in the other; if something is not inside, than it is outside. According to Pierre-Jean Jouve, “we are where we are not.” “We seek to determine being and, in so doing, transcend all situations...” 20

“The dialectics of outside and inside is supported by a reinforced geometrism...”21 A tripartite scheme is the form-diagram that denotes the beginning in the ordering of spaces. An outer ring of individual reading carrels marks the periphery. An inner ring houses stacks of books. The center is a great hall lit from above. This form-diagram of the center, to the inner ring, to the outer ring reinforces the geometrism of spaces.

Bachelard’s inside/outside relationship parallels Kahn’s philosophy of silence and light. The great hall at the center poses as the inside, the exterior space, the outside. The poetic experience comes from the process of moving through Exeter’s center, the silence, to the individual reading carrels, the light. At the threshold where silence and light meet, exists a border-line surface between such an inside and outside.22 This light-
less space houses stacks of books. It is the transition of the being of man, the threshold between that which is inside, and that which is outside. Here, “...we absorb a mixture of being and nothingness. The center [the inside] of ‘being-there’ wavers and trembles...intimate space loses its clarity, while exterior space [the outside] loses its void, void being the raw material of possibility of being.”

Bachelard’s inside/outside relationship also parallels Kahn’s notion of the institution of a library, a man with a book goes to the light. “The phenomenology of the poetic imagination allows us to explore the being of man considered as the being of a surface, of the surface that separates... [the inside from the outside].”

When moving from the inside, through this separating surface, man has first contact with a book, and takes it to the light, the outside. “Entrained in being, we shall always have to come out of it. And when we are hardly outside of being, we always have to go back into it. Thus, in being, everything is circuitous, roundabout, recurrent...”

Neither can we enter nor exit Exeter without experiencing the sequence of moving from inside to outside, from lightless to light, from silence to light. The transition of this exchange, from inside, without book, to outside, with book, defines the poetic experience.

Through Kahn’s definition of a library, Exeter transcends its useful function. In the sequence of moving through space, from a center hall to a reading carrel, we experience Bachelard’s archetype of the dialectics of inside and outside in Exeter Library.

**Intimate Immensity**

A phenomenon consists of objects and events that can be perceived by one’s senses, not independent of consciousness. Since the notion of immensity is not a perceivable object, a phenomenology of immensity refers to the phenomenology of the imagination. Bachelard refers to the meeting of the real and the unreal as imagination. This is parallel to Kahn’s notion of inspiration, i.e. the meeting of Silence and Light. Because the meeting point of Silence and Light is man’s inspiration and man’s inspiration leads to mans institutions, we are arrive at a study of the poetic experience as an expression of the institution.

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23 Bachelard 218.
24 Ibid 222.
25 Ibid 214.
26 Ibid 183.
For our first description of immense space we turn to Rene Menard. He presents a beautiful image devoted to trees:

“Now I am traversed by bridle paths, under the seal of sun and shade...I live in great density. In the forest I am my entire self. Everything is possible in my heart...thickly wooded distance separates me from moral codes and cities...”

The key notion in Menard’s description of immensity is the fact that he feels “separate[ed] from moral codes and cities.” This suggests that immensity is experienced when one is detached from the immediate context. Kahn’s spatial sequence in Exeter detaches the user from the context before offering the image of immensity.

Kahn detaches one from the context by the spatial order of the entry sequence to Exeter. First the user is presented with a brick portico that offers many openings to enter. Once in the portico the user finds his way to one of four corner entrances. It appears as if one is entering into a dark space. Once inside the building the user moves up a stair case into the central space lit from above (fig. 8.1). Bachelard writes, “By changing space, by leaving space of usual sensibilities one enters into a communication with space that is physically innovating...we do not change our place, we change our nature...”

Where Menard merely suggests the idea of immensity, Kahn creates it through his expression of institution and order of spatial sequence. The central space is surrounded by two layers of concentric rings, one for the books and one for the reading carrels, setting up layers of space that can be viewed from the central space and experienced in sequential order. This ordering, coupled with the round structural trusses allows one to view the density of books upon entering the central space.

Menard offers the image of living in great density as an immense experience. In Exeter, Kahn poetically expresses the institution of Library by offering the density of books. Bachelard speaks of immensity by stating, “…the state of immensity does not cast us into the world. Rather, we are opened up to the world as it is seen before we started.” What is important in this passage is the fact that immensity can open one up to the world. Kahn explains that a Library is “a place where the world is put before you through the books.” This is realized as one enters the central space in Exeter and is presented with the whole world expressed through books (fig. 9.1). In the central space where the world is opened through books, one cannot help but feel that they are in a

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27 Bachelard 186.
28 Ibid 206.
29 Ibid 184.
great forest of books, and everything is in one’s heart is possible through the opening of
the world. When one is placed before the density of books, one is one’s entire self.

The entire temporal dimension of human knowledge is presented to us in poetic imagery
upon entering the central space of Exeter Library. Bachelard says this of poetic space,
“To give an object poetic space is to give it more space than it has objectively…” Kahn
would call this notion unmeasurable. The experience from the central space of Exeter
surely suggests a deeper space than that with is measurably present. Kahn’s unmeasur-
able institution is manifested in physical means, yet ultimately ends in the realm of
unmeasurable, immense space.

The most poetic image in the experience of immensity can be found in its inverse
relationship with that of intimacy. Bachelard warns us of immensity by saying, “…one
can follow the opposite course into intimate depths.” He follows by speaking of the
intimate relationship between small and large. For our purposes in Exeter library we
look towards the institution of Library and find the relationship between the one and
the many. Kahn states, “A Man takes a book and goes to the light, a library begins that
way.” This description of the institution of library suggests that Man chooses from many
books and takes one into the light.

Kahn realizes the idea of Library by the manner in which he orders Light. The relation-
ship between the central space and the individual reading carrels illustrate the connec-
tion between two complimentary moods of light. The central space is intended to be a
gathering space for many people. It is intended to present the books before the user in
a collective manner. The lighting of the space reflects this. Light is cast from above and
washes into the space. The light is a common light. It is not intended to cast a single
beam but rather to illuminate at entire collective space. However, for a truly poetic
expression of immensity, “…one can follow the opposite course into intimate depths.”

The reading carrels offer a different experience of intimate immensity by the treatment
of a different expression of light (fig. 10.1). After one has passed through the central
space, moved into the stacks of books and chosen a specific book they are presented
with a place to sit and read. The way in which Kahn treats the light in the space reflects

30Bachelard 202.
31Ibid 194.
32Ibid 194.
his institution of Library and offers the experience of intimate immensity. Here, Kahn offers the individual reader, a specifically chosen ray of light coming from the outside world. The user is reintroduced to the context. The reader is offered a window that can be opened and shut, allowing the reader control of the flow of light and visual connection with the outside world. Are not the reading carrels just as immense as the central space in the intimacy shared with one book? In the space of the reading carrels we are opened to the world through the pages of just one book.

**Phenomenology of Roundness**

The institution of Library is expressed through Roundness in the same way that it is expressed by immensity. Again to reference Kahn’s words concerning the origin of a Library, “A Library is a place to be with books.” The essential elements in the passage are the notion of being, and that being happening with books. For a library, being is defined by books. But immensity of books alone does not suffice to express a being with books. In order to enter into the realm of poetry, it must be coupled with poetic notions of roundness.

Bachelard presents two examples of poetic imagery that speak to the roundness of being. The first is an excerpt from Karl Jaspers, Von der Wahrheit (Of the Truth) “Every being seems in itself round.” The second comes from Van Gogh simply stated, “Life is probably Round.” Here, roundness is being and in Exeter roundness is being with books.

The origin, a place to be with books, must pass through measurable means of order to offer the unmeasurable poetic experience. Kahn achieves roundness by the articulation of structure. The four concrete columns defining the central space are held together by four round concrete trusses. The round trusses, pulled away from the space of the books, express the structure while simultaneously expressing the origin of Library. In the central space one experiences the roundness of being with books through Kahn’s expression of the concrete truss. In Bachelard’s own words, “Images of full roundness help us to collect ourselves, permit us to confer an initial constitution of our self and to confirm our being. For when it is experienced from the inside, devoid of all our exterior features, being cannot be otherwise but round.”

However, Bachelard draws a distinction between roundness studied by the geometer and a roundness of being described by poets. “It is evident that when a geometer...”

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33 Bachelard 232.
34 Ibid 234.
speaks of volumes, he is only dealing with the surfaces that limit them. The geometri-
cian [of roundness] is an empty one.”

Certainly Kahn’s roundness goes beyond that of geometry. The roundness transcends geometry and achieves poetry through the direct expression of the origin of library. It goes beyond measurable means and finds itself in the realm of the unmeasurable silence. One feels isolated before the books and under the light of heaven, isolated in the Silence of books.

Isolation, Bachelard argues, is roundness. “Sometimes we find ourselves in the presence of a form that guides and encloses our earliest dreams. A poet knows that when a thing becomes isolated it becomes round, assumes a figure of being that is concentrated upon itself.”

In Exeter, one is isolated in the central space under the silhouette of a cross and can turn only to one’s self for being. Silence reaches isolation when being begins and ends with one self.

Bachelard uses Rilkes Poemes francais to illustrate a roundness of isolation. “Around a lone tree, which is the center of the world, the dome of the sky becomes round in accordance with the role of cosmic poetry.” In this example “the world is round around a round being.”

Tree always in the center
Of all that surrounds it
Tree feasting upon
Heavens great dome.

It is our proposition that Louis Kahn’s theory of Silence and Light is a search for poetic creation and the poetic experience. Both Kahn’s theory and Gaston Bachelard’s phenomenology of the poetic image draw a distinction between the real and the unreal, the physical and the metaphysical, and the intersection of these two realms. Kahn states that the intersection of Silence and Light is the moment of man’s inspiration. He denotes this as the Treasury of Shadows. For Bachelard, the overlapping of the real and the unreal constitutes man’s imagination. This is where the effectiveness of the poetic image resides, in imagination and inspiration. For both, poetic expression must take place in the physical world by tangible means. Bachelard speaks of the ability of the real and the unreal to reach a unified whole and Kahn tells us that realization is realization in Order.

It is through the expression of the origin of a library by means of space, light, materials and structure that Louis Kahn is able to create a poetic experience at Exeter Library.

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35 Bachelard 235.
36 Ibid 240.
37 Ibid 240.
This essay applies the scientific theory and methodology developed by Imre Lakatos as a normative and explanatory model of architectural design. Lakatos is associated with a theory of science which seeks to “preserve minimum normative standards within an expanded range of internal constraints.” Andreotti argues that Kahn’s theory of “Form/Design” is a conceptual research programme similar to Lakatos research.

Gaston Bachelard (1884-1962), one of Europe’s leading philosophers, held degrees in physics, mathematics and philosophy. This book concentrates on the way in which one experiences intimates places and how those experiences are expressed poetically through language. Bachelard outlines poetic archetypes that consistently evoke poetic images in the mind of the reader. Bachelard’s main concern is a phenomenology of the imagination and the role that the imagination plays in the experience of poetry.

Joe Burton describes Louis Kahn’s extensive philosophy of architecture and the creative process comparing it to mythical acts of creation found within different cultures and religions. He draws parallels between German Romanticism, taught to Kahn by his mother, and Kahn’s eventual theory of Silence and Light. Here, Burton explores the relationship between Kahn’s architecture and various mythical archetypes of the act of creation.

Alessandra Latour is a professor of architecture and architectural theory at Columbia University Graduate School of Architecture, Planning and Preservation. In this book she has collected essential essays written by Kahn from sources such as Perspecta, Progressive Architecture and Arts and Architecture over the last fifty years. These essays present powerful statements outlining Kahn’s deep spiritual approach towards architecture and the mission of architects.

John Lobell teaches architectural theory and history at the Pratt Institute in Brooklyn, New York. He holds a Masters of Architecture degree from the University of Pennsylvania in 1965 and an additional degree in Architectural theory in 1966. In this book Lobell has collected various texts and drawings from Louis Kahn stating simply his philosophy of architecture, art and the city.

This article takes the reader through the chronological process of the planning of Exeter Library. The library, commissioned in 1965 by Richard Day (the principle of Exeter Academy) culminated 10 years of activity. LeCuyer gives detailed accounts of the Library’s use to this day compared to the original intent of Kahn and Exeter officials.

William Markin presents his evaluation of Exeter Library in this article for Architectural Forum. Markin describes the concept of Exeter in Kahn’s words and his own while taking the reader through a literary “walk-through” of the building.

Alexandra Tyng, the daughter of architects Louis I. Kahn and Anne Griswold Tyng received her B.A. in art history from Harvard-Radcliffe University in 1975. Additionally she received her M.S. in counseling from the University of Pennsylvania in 1977. Ms. Tyng has been a practicing artist since 1972. Ms. Tyng presents a dynamic view of her father’s philosophy of architecture from its origin in the 1930’s to his final projects and death in 1974. This book traces Kahn’s theory in a number of categories such as, Order, Silence and Light, and Institutions and highlights a many of Kahn’s built works to supplement the philosophy.
Images
1.1 Original Diagram


2.2 Tyng 135


5.1 http://www.brynmawr.edu/Acads/Cities/imgb/imgb3/227h.jpg


7.1 Original Diagram

8.1 Original Diagram

tions, Inc, Boston: 1979. p, 103

10.1 Lobell 104

11.1 http://www.brynmawr.edu/Acads/Cities/imgb/imgb3/227d.jpg

13.1 Lobell 114

*Fig. 13.1 Louis I. Kahn*