

Louis Kahn, the Beginning of Architecture. Notes on Silence and Light

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Abstract

Louis Kahn spent his entire career trying to answer the need for architecture to be a reflection of man's life. He elaborated on this idea using his thoughts on institutions as a response to human activity, and where the architect starts their design process. The search for these beginnings led him to look at the origin of architecture, trying to establish a theory that would give a response to the division between the creation's desire to be and the architect's desire to express, articulating all of these thresholds that architectural theory passes through as a creator of appearances. All of these abstract concepts that Kahn talks about materialise through drawing. They are lines that find themselves drawn half way between text and the drawing being analysed, and they refer to universal ideas on architectural concepts.

We will be exploring the idea of the origin of architecture, from silence and light, through an entire series of notes from the architect's personal journeys, which were evolving along with his thoughts on architecture from the fifties until his death in 1974.

Keywords: Louis Kahn, drawing, idea, silence, light.

Introduction

From a restless spirit to his calling to be a painter, Kahn had many graphic design influences throughout his life that led him to develop his own system. The perfection of the lines he drew made him try to strengthen the creative intentions of his drawings (fig. 1) through diverse techniques [Montes 2016, p. 93], in which the search for abstraction and expression became one of his key interests. He was a multi-faceted architect, with a complex conceptual rhetoric based on aphorisms. A lot of the time he expressed this with short, unrelated phrases, almost creating visual poetry, and liked students who were eager to listen to his talks, those who, as he said, learned more than what he taught. In his classes and conferences, he used ideas related to one recurrent, central thread, which through linguistic

philosophy, explored the meaning of the words and used them to find solutions.

The Louis Kahn drawings that we will look at here are the graphic design expression of intellectual unrest, but they are also the representation of an oral rhetoric which defines itself as the project development of his architecture. Because of this we can consider Kahn one of the first architects who, after the Modern Movement placed special emphasis on architectural representation [Otxotorena 1994, p. 205].

As we have previously said, this interest would not be focussed on disciplinary drawing, but on a specific vision of representation where self-expression was a priority. For Kahn these drawings would be maps to guide the architect

through creative thinking; a field in which they can find the essence of their projects. Kahn drew in order to find [1], to pick up intuitions and ideas and bring them from silence into light. There is a willingness to be in them, an existence of which the architect is an instrument; of which ideas seem to take on a life of their own through drawing. We refer specifically to those drawings that serve to help us understand and explain his process and search. In these drawings, Kahn found a method to work, an architectural way of thinking that evolved with time. The terms that Kahn referred to with his ideas were changing, as were his lines, but the architect returned time and again to his origins, to the stepping stone where he discovered all the available possibilities.

I love the origins

At the start of this project, an important factor was the study of man's habits that would define the uses and needs of the architectural project. For Kahn, the project needed to adapt to the needs of the institution that it was going to accommodate. "I can assure you that the most satisfying thing was the certainty that solutions did not come from a dead programme" [Kahn 2002, p. 24].

Fig. 1. L. Kahn, sequence about his hands drawing using charcoal in his studio. Frames from *My Architect*, a son's journey, Nathaniel Kahn.



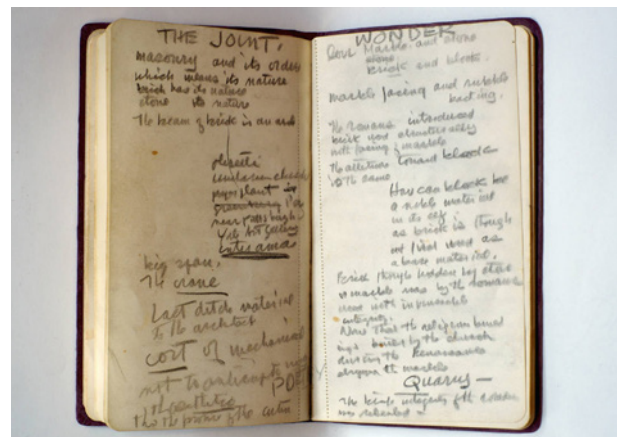
Changing a project involves liberating forces, being able to understand the nature of a group of spaces and give them shape. And it is in his thinking regarding institutions, based on human activity, where we can easily find the origin of the creative and compositional process of Kahn [Sabini 1994, p. 34].

This way of the architect projecting, comes from his years as a student at the Beaux Arts Institute in Philadelphia [Browlee 1998, p. 15].

For Kahn, shape did not refer to architectural contours or profile, but the essence that an architect must discover in an architectural programme before it becomes contaminated by practical considerations. But "programme was too boring a word" [Kahn 2002, p. 24], it did not include the width of meanings that Kahn wished to find, faced with a new project. It was about finding the nature of space and the essence of the institution.

This stance, of not complying with closed programmes, was one of the key motives for the multitude of non-constructed projects that Kahn treasured in his study. His most beloved client, Jonas Salk [2], gave him total freedom to design his laboratories in La Jolla. He added a thought to the project: "I'd like to invite Picasso to the laboratory". Kahn noted in this, one of his best projects, that the programme is not just function, but a series of rules, considerations and hopes to do with the nature of the building.

Fig. 2. L. Kahn, notebook *The Joint meets Wonder*, ca. 1966-1974. Photo Jon Rohrer. Louis I. Kahn Collection.



Asking an architect to ignore this and design a building as an intelligent response to a list of surfaces "is like writing to Picasso and saying to him: I want a portrait...with two eyes...a nose...and just a mouth, please" [Kahn 2002, p. 45]. These for Kahn were the architect's rights.

We return now, as Kahn did, to the origins. There, at the start, work should not start with surfaces or pre-established (fig. 2) ideas regarding a place or an intuition.

Awareness è [3], understanding of a problem and of the nature of things must come to the fore: "what the things want to be."

The institution, which in recent years Kahn would call 'availability' [4], is found within this origin. In what he would call preform, an archetype that refers to an archaic shape where all possibilities are condensed [Kahn, Latour 2003, p. 101]. The architect is the one who has to acknowledge the institution's need to exist.

The inspiration of living was the origin of the architect's institution. But Louis Kahn's North America was not the same as that of Thomas Jefferson, of Frank Lloyd Wright, or of Mies Van Der Rohe.

Nor was it, when Kahn articulated these ideas, the optimistic North America of the New Deal. The essence of the institution had been weakening in society in pursuit of the technical feats and social changes.

Kahn was aware that inspiration and awareness were already being vaguely perceived in the institutions of his time [Roca 2009, p. 24]. "Today the shadows are black. But in reality, there is nothing like that of white light, black shadow. I believed in when the light was yellow and the shadows were blue. White light is a figurative way of saying that even the sun is standing trial are certainly all of our institutions are" [Kahn 2002, p. 16].

Willingness to exist

Nevertheless, Kahn believed that a revolution was possible, that through wonderment [5] new institutions of man would be born. Since man's capacity to acknowledge that which is found in the origins, the immeasurable, generates the institution; and this is found within man with regard to the need for expression and existence.

This particular definition of the term institution is the expression that designates common faith, 'the human agreement' as Kahn called it, which aims to discover the nature of things in the world.

It is more an idea than a reality [Giurgola 1996, p. 93]; and is established through an order based on the common characteristics of mankind. In this way, Kahn's standpoint refers us to the many ideas linked to living [6] as an inherent desire of man that allows him to fulfil his potential. The nature of space and the institution has what Kahn called 'existence will'.

In his text *Order is*, Kahn clearly shows that the nature of each thing has a specific will to be: "that is why a horse painted with stripes is not the same as a zebra" [Kahn 1955, p. 59].

Architecture is not conceived or born when we ask how to construct it but when we explore what it is that it looks to express; it is more to do with discovering what according to Kahn has been forgotten, the primordial order that exists, this order that already 'is', that is immaterial, pure creative force and inclusive will.

Kahn would write: "A dome is not conceived when we ask how to construct it. Nervi made arches grow.

Fig. 3. L. Kahn, drawing for City/2 exposition: *The Street is a Room*, 1971. Louis I. Kahn Collection.



Fuller made domes grow” [Kahn 1955, p. 59]. However, both respond to the institution they serve.

For Kahn, there are three key wills that respond to constant institutions throughout the history of architecture and refer, in their origins, to the home: the will to learn, the desire of encounter and the desire of wellbeing; which translates in the institutions of the school; the street and the city (fig. 3).

“Schools started with a man under a tree, who didn’t know he was a teacher, discussing what he was aware of, his knowledge, with a handful of people who didn’t know they were students” [Kahn 1962, p. 115]; “the street is a room of consensus [...] where people live, learn, shop and work” [Kahn 1971, p. 33]; “the city is measured by the character of its institutions [...] these places that must conserve a way of life” [Kahn 1971, p. 34]; “these days these institutions are being called into question. I think this is down to them losing the inspirations of their origins” [Kahn 1971, p. 34].

Faced with changing circumstances, Kahn required the renovation of interpretations: to look for “new expressions for old institutions” [Norberg-Schulz 1990, p. 12]. Sabini stated [Sabini 1994, p. 15] that amongst all the books in his library Kahn proffered a History of England of which he, despite having eight volumes, only ever read the first, looking for that origin that had never been writ-

ten: “I am particularly interested in English history, I find it fascinating. Even when it is a vicious history, it had the quality of a search. However, every time I start to read the first volume, I stop at the first chapter, and I read it and reread it, always trying something different. Naturally, my idea is, probably, to read Volume Zero” [Wurman 1986, p. 245].

Drawing to discover

On the 12th February 1969, Louis Kahn held an exhibition of his work at the ETH in Zurich, giving a talk entitled *Silence and Light*. As he stated during that talk, he had only made a few basic notes which were drawn from one central thread, and began drawing on a board because “this time drawings themselves were the talk” [Kahn 2003, p. 244].

Kahn wrote two words on that board—silence and light—explaining he was going to talk about some ideas he was developing at that time (fig. 4).

It was one of his most abstract and complex theories that he had developed on architecture so far.

Silence and light were words he had chosen at this point, nearly at the end of his career, for collecting all his poetic ideas concerning the process of architectural creation.

Fig. 4. L. Kahn during the 1969 conference at the EHT, Zurich. Photo by Peter Wenger © Archives de la construction moderne - Acm, EPF Lausanne.

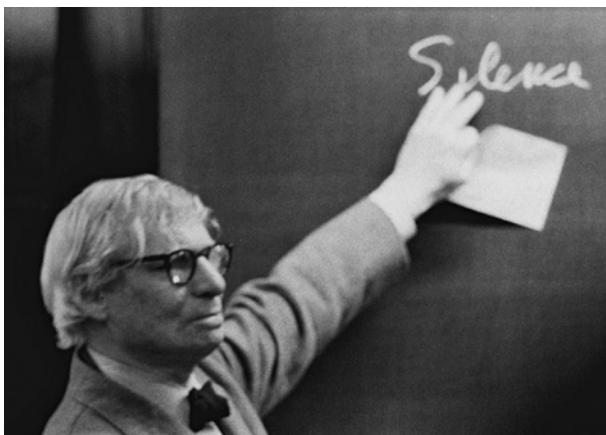
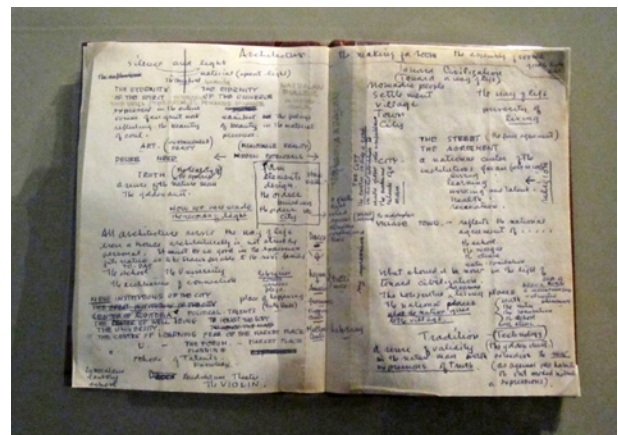


Fig. 5. L. Kahn’s notebook *Architecture the making of room, Silence and Light*, ca. 1970. Louis I. Kahn Collection.



Within this context, light for Kahn represented a means of expression by which nature became present in the architecture, while silence was a wish of expression present in the collective unconscious [Tyng 1984, p. 129]. Kahn, who was fascinated by the idea of discovery, told everyone in attendance that the process of architectural creation meant to take away the silence from a project, a building, an idea, and to bring it into the light, in order to make it real, to materialise it. Kahn continued his talk, which as always was disorganised and full of gaps, he used metaphors and references from within his own universe which he tried to explain (fig. 5).

Things became clearer however, thanks to the drawings Kahn was making on the board. They were about diagrams and charts, where pyramids, lines, and rays of light mixed with words in this graphic parallel speech to which we will refer in this text. These drawings are especially relevant when addressing the study of Kahn's work and understanding his way of thinking.

His ideas on silence and light, and the drawings that accompany them, are the means of expression through which the nature of architecture was presented, and the methodological base of our study on the relation between drawings and Kahn's thought process.

Form, drawing and order

The beginning of the graphic talk on the architectural process developed by Kahn starts in the fifties with the concepts of Institution and Wonderment, and their subsequent translation into Form, Order, and Design. Kahn's diagrams show us how human thought and feelings (the will to be and to express) are related to the concept of Form. In his drawings from 1953 and 1954, Kahn did not show any special interest in the term Form, but focussed on three creative phases: the nature of the space, the order and the design [7] (fig. 6).

From 1960 onwards, Kahn includes Form as the result of two opposite desires: the will to be, linked to human thought, philosophy, and, especially, to history [8]. This is a look back to the beginnings and the deep searching through memories which are defined by archetypes. In addition to this, there was the will to express, related to feelings, and the need for translating all mental images of inspiration into reality. This dichotomy would turn Form into an expression of the Institution [9].

Fig. 6. L. Kahn, nature of space, order and design, 1953-1954 [Tyng 1984, p. 22].

Fig. 7. L. Kahn, on the creation of Form, 1960 [Tyng 1984, p. 30].

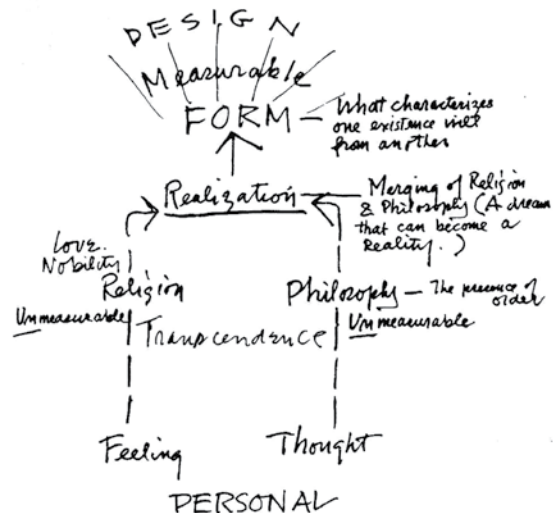
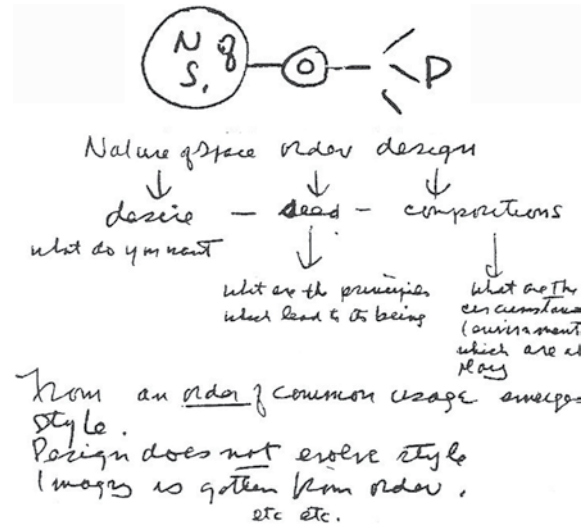
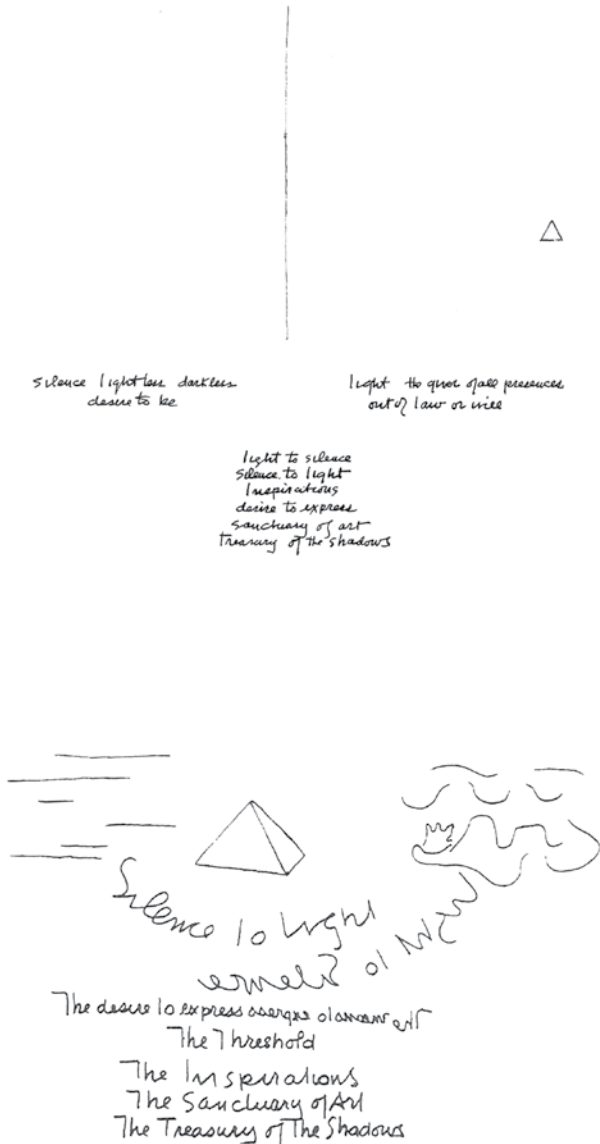


Fig. 8. L. Kahn, *Silence and light*, 1968 [Tyng 1984, p. 135].

Fig. 9. L. Kahn, *Silence and light*, 1972 [Tyng 1984, p. 135].



In order to understand this term included by Kahn in 1960 we should distinguish its English meaning as 'form' or 'shape'. In this sense, Charles Moore suggests that "form determines a field in which realities may be taken or given shape. [...] There are millions of possible shapes, shapes, for a spoon, whereas there is only one form, form" [Sabini 1994, p. 37].

Therefore, for Kahn, shape has neither an outline nor a predefined size. Shape is an abstract concept, while design is in reality a reflection of its translation, a drawing of the shape that expresses nature.

"Form is *what*, Design is *how*. Form is impersonal, design belongs to its producer. Design is a circumstantial event (the available budget, the plot, the client, the knowledge needed); Form has nothing to do with all these circumstantial conditions. In architectural terms, Form describes a harmony of spaces suitable for a specific human activity" [Kahn 1962, p. 115].

Therefore, Design refers to shape, as it is circumstantial and the result of a project process. However, to attain it, a conceptual Order should be developed first.

This is related to all tangible conditions, such as place, structure, material, and budget to complete the Design cycle (fig. 7).

So, for Kahn, Order would be his best working tool, an archetype, a mental layout which allows him to interpret the desires of Form.

Many of the ideas that structure his domestic or institutional projects come from this idea of Order; geometry, in Formal Order terms; spaces that serve and are served, such as the functional order; or the field which refers to tectonic order [Brownlee 1998, p. 107].

Since 1968, Kahn started to symbolise Order using a pyramid, and referred to architecture as the balance between silence and light. The pyramid represents geometry, and the project moving from silence to light materializes through this geometry as a threshold, as a catalyst [Juárez 2006, p. 25].

From silence to light

During this same time period, Kahn's approach became more and more metaphysical. It is said to be influenced by Hindu spirituality [Goldhagen 2001, p. 2], due to his projects developed in Dhaka and Ahmedabad. Be that as it may, Kahn gradually scaled down his sentences, using a



Figs. 10, 11. L. Kahn, *Silence and light: eternity*, 1972 [Tyng 1984, p. 136].

limited number of words in his speech, the meaning of which were notably profound.

He even avoided the use of punctuation, and his text structures changed into unconnected sentences, arranged in lines.

Meanwhile, his drawings became less representative (fig. 8). We are therefore able to establish it in the famous drawing of 1968 about silence and light (fig. 9).

The pyramid represents creation as a consumed light; whereas silence corresponds to the whiteness of paper, both separated by a dividing line, the threshold.

In later drawings, several horizontal lines picture all possibilities found in silence, whilst in light they have been curved into a particular shape.

The representation of the threshold between silence and light, where order sits, is drawn from a perfectly delineated line in 1968's drawing of an open area where the pyramid from the 1972 diagram is located.

Geometry is situated in the transitory space between what would be the ideal and tangible. In a sense, Kahn appears to be concerned about the myth of creation

[Tyng 1984, p. 137], in terms of the constant exchange of silence and light, within their cyclical and never ending nature.

One of his last drawings of 1972 describes eternity as two siblings, each with features that Kahn assigns to silence and light.

Then, he draws them, combining scientific and religious ideas about the origin of life (figs. 10, 11).

Juan Navarro Baldeweg states that Kahn "saw himself seeing visions" [Juárez 2006, p. 9], that is, he was aware of the fact that his architecture came from an inner world in which everything was abstract, from a fantasy universe where his projects were visions.

His architecture, the step through shadows in the search for light. His drawings were the images of his architectural thought, and the graphic analysis of his ideas.

His way of thinking was a way of life. "If I were asked who I would like to be at the present time I would say the writer of fairy tales. It is from the meaning of the incredible that all human desire of creating and implementing comes from" [Kahn 1968, p. 23].

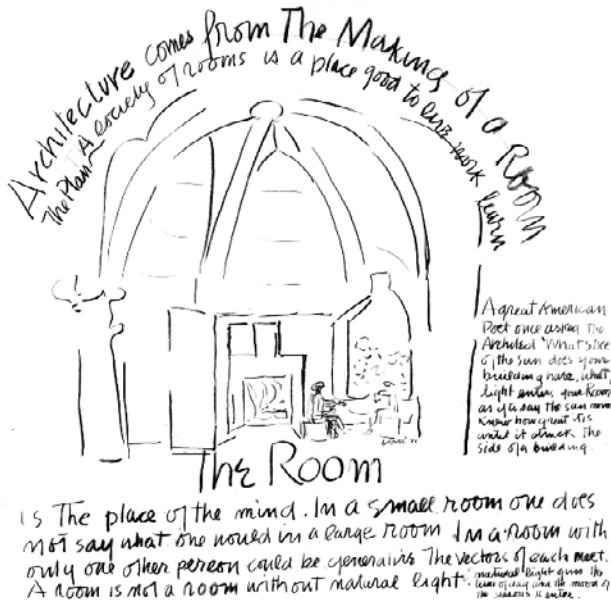


Fig. 12. L. Kahn, drawing for City/2 exposition: The Room, 1971. Louis I. Kahn Collection.

Conclusions

In this system, Kahn found a working method which was evolving over time.

The terms his ideas referred to responded directly to his need to learn, at the same time changing what his projects did.

But the architect returned time and again to the origins of architecture, to the starting point where he found all possibilities. Louis Kahn developed his theory on the process of architectural creation through texts and written work that were always accompanied by images.

These looked to clarify the complex nature of his words. It was then, nearly at the end of his career, where he found the theory of silence and light, understood as a poetic collection of all of his ideas regarding the process of architectural creation. Kahn placed special emphasis on these beginnings, because within this there were no pre-estab-

shed ideas, just comprehension and understanding of the nature of things, and therefore the institutions of man.

But in this search for the origins, or Volume Zero of architecture, there was a constant that was linked to the unchangeable [Kahn 1972b, p. 19].

As confirmed by the metaphysical, the eternal is the unlimited in time and in space. For Kahn, the return to origins was found in that which has been, which is and will be, so in the end, his search will be for eternity.

In 1971, shortly before his death, Louis Kahn would draw his famous drawing *The Room* (fig.12), for the *City/2* (*City over Two*) exhibition at the Philadelphia Museum of Art [10]. Perhaps this is one of his most famous drawings, not just because of great expressivity, but because of its content and significance.

The idea that architecture stems from the construction of a room, and that any building is in reality a collection of linked rooms [Kohane 2009, p. 174] helping to kick start a concept that is as novel as it is old in the history of architecture; it is so simple in essence, and at the same time so complex, in the architectural search that Louis Kahn carried out throughout his career.

When Kahn confirmed that the Room is “the start of architecture” or “a place of the mind” [Kahn 1972a, p. 124] it refers directly to his theory of Silence and Light.

His architectural design of the space responds to an inner force, this ‘existence will’ which makes the essence of the Institution emerge.

Ultimately, we can define *The Room*, as a culmination of all the ideas that Kahn developed throughout his career.

The room would be the origin, the beginning of architecture [Torres Cueco 2010, p. 6]; but it was also an end in itself for Kahn, a basic space that works for all of mankind and has an everlasting character, capable of standing the test of time, as the architect could reconnect with the inhabitant.

The 1971 draft that we finish this text with, is a description of this shell or casing for man; and the design itself has this expressive value, which we have been speaking about, to ‘catch dreams’.

As Umberto Eco states, “architecture is the art that tries hardest to reproduce the order of the universe, that people used to call the Cosmos” [Fernández-Galiano 1991, p. 15].

Kahn’s room would be *imago mundi*, or a world within a world, the imaginary world that the architect sought throughout his life.

Notes

[1] We are interested in Kahn's relation with drawing as a form of education and expression. During his travels, Kahn would try not just to pick up concrete architectural data, but feelings and sensations that evoke places, [Montes 2005] he defines this as "writing with drawings".

[2] "At Salk Institute for Biological Studies, when Salk came to me and asked me to construct a laboratory, the project was simple. He said to me, 'How many square metres do the towers of the University of Pennsylvania medicine department measure?'. I told him it was about 9,300. He said, 'There is something I'd like to be able to achieve. I'd like to invite Picasso to the laboratory'. His inspiration was clear, it was in science, preoccupied by the measurable, there is a will to be in that which is, from the smallest thing. A microbe wants to be a microbe (for some ungodly reason), and a rose wants to be a rose, and man wants to be man... to express... a certain stance, a certain attitude, a certain something, which moves in one direction and not another; hammering nature non-stop to provide the instruments that make it possible. Salk, the scientist, sensed this desire for expression. The scientific, isolated from any other way of thinking, needed more than anything the presence of the immeasurable, which is the artist's territory": Kahn, Ngo 2002, p. 28.

[3] Norberg-Schulz [1990, p. 23] suggests that the *genius loci*, the dimension where life comes about and determines its character, would be translated by Louis Kahn as 'the immeasurable' or 'that which things want to be'. Enric Miralles would also define Kahn's terminology as "strange trajectories of architecture" or "that which is outside of the project": Miralles 2000, p. 21.

[4] In 1972 Kahn started to use the word 'availabilities' instead of 'institutions', once he saw the negative connotations that the term institution had for the new generation of students in the sixties: Tyng 1984, p. 79. Also, this term, availabilities, better expressed for Kahn the idea of unlimited possibilities.

[5] For Kahn, it would be fundamental to not depart from predetermined concepts or aphorisms of any type without allowing the unknown or unmeasurable to appear. The repetition and work would be the tool that would allow him to get closer; absorb and finally to personally take on, in order to specify and ascertain, that which is not only shown in appearances but also that which is hidden to the naked eye.

[6] The discussion between Kahn and Heidegger about the search for

the essence of man holds several coincidences. If Heidegger established that inhabiting means existing and that man attains this through the constructions that respect the essence of inhabiting (Quarternity), Kahn suggests the return to these origins to find the common characteristics of man's existence, his institutions, and through the eternal qualities of these, he presents his architecture as a response to man. Both of these, put the man of that moment in crisis, Heidegger invites us to learn once again how to inhabit, while Kahn thinks that we should re-programme the institutions in pursuit of a new society.

[7] Anne Tyng, who worked with Kahn at that time, states that those sentences correspond to her four phase theory about cycles: geometry, nature, psyche, and creativity. As she has shown, the influence between them was mutual throughout the entirety of their professional and personal career; "each of our concepts illuminates the other": Tyng 1997, p. 210.

[8] Kahn had an extensive knowledge of the history of architecture thanks to his Beaux Arts education, which was not reflected in his work until the fifties. This subject looks at how historicist references are a constant in almost all inquiries and studies on his character: His travels around Europe, his time at the American Academy in Rome, his relationship with Robert Venturi, his references to architects of the past: Ledoux, Boule and Palladio, or great works such as Hadrian's villa. Although Kahn always referred to these past works of architecture and situated them in their origins, many of the interpretations of his work link him to postmodern historicism. It is important to note that his work has nothing to do with Postmodernism, but with evoking and adapting previous landmarks with modern and personal language: Goldhagen 2001.

[9] There have often been parallels drawn between the concept of Kahn's concept of Form, and that of Aldo Rossi's Tipo. The difference between the two can be understood in their geographical context; while the European Tipo clings to History, the American Form of Kahn had this feeling of beginnings. What links the two is the search for a starting point, a type of figurative plan that is at the start of the project.

[10] The *City/2* exhibition happened between June 1971 and February 1972 to commemorate the future Bicentenary of the American Declaration of Independence in 1976. Kahn carried out a series of designs related to the *Institutions of Man: The Room, The Street and The City*, accompanied by texts that tried to explain his thoughts on architecture and his particular vision of Philadelphia.

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