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THE TRUTH OF ARCHITECTURE: COMPOSITION AND CONSTRUCTION OF MUSEUMS BY LOUIS KAHN

PRAWDA ARCHITEKTURY: KOMPOZYCJA I KONSTRUKCJA MUZEÓW LOUISA KAHNA

Abstract

The paper aims to investigate some museums that Louis I. Kahn built in the U.S. Kahn's projects are useful to affirm that the truth in Architecture is in the relationship between composition and construction, against any kind of functionalism and unrelated work between form and space. In order to demonstrate this quality of Kahn's architecture, all the buildings under investigation have been re-drawn through axonometric view from below, following the way of Auguste Choisy.

Keywords: Louis I. Kahn, museum, composition, construction

Streszczenie

Celem artykułu jest analiza niektórych muzeów zbudowanych przez Louisa I. Kahna w Stanach Zjednoczonych. Projekty Kahna pozwalają udowodnić, że prawda w architekturze tkwi w związku między kompozycją a konstrukcją, wbrew wszelkim formom funkcjonalizmu i niezwiązanej działalności między formą a przestrzenią. Aby zademonstrować tę cechę architektury Kahna, wszystkie analizowane obiekty zostały na nowo narysowane w ujęciu aksonometrycznym od dołu, podążając za przykładem Auguste'a Choisy'ego.

Słowa kluczowe: Louis I. Kahn, muzeum, kompozycja, konstrukcja

*Architect, don't escape from your responsibility, take care of form
... you'll find again man in it.¹*

Luigi Snozzi

1. PREMISE: WHAT IS TRUTH IN ARCHITECTURE?

Pavel Aleksandrovič Florenskij, during a lesson for his students at Vkhutemas in Moscow, stated:

We must start from the very concept of the work of art. The work in itself is a reality that overcomes itself, that is, it tells us and gives us more than what it is directly through the perception of the senses. On one hand, the work is subject to given laws that regulate what is represented,

¹ Luigi Snozzi in a lecture given in Chiaromonte Gulfi in September 2014 in the context of 10 Laboratorio Internazionale d'Architettura LId'A "The design and the restoration of the Landscape. Chiaromonte Gulfi: continuing a world" edited by Laura Thermes.

on the other hand it depends on other laws based on the fact that it represents something. In other words, general relationships, general schemes, general laws of organization of the work of art in itself exist but, at the same time, it is not extraneous also to other relationships, to schemes and laws that concern not the work, but what is represented in it. Consequently, it is twice a unit, the work. [...] This duality, if expressed in a common language, represents the two moments of composition and construction.²

Even if Florenskij is talking about art in general, two words strictly related to Architecture appear in his lecture: composition and construction.

Composition is the unit that is deposited by the artist in the work when he chooses a given space. In other words we can say that, in a certain sense, composition is the function of the artist who creates the work, construction is the unity of things represented in that work, it is also a function but not only of the artist but of that reality towards which the work is addressed. [...] Composition is what the artist brings in the work; construction is what to contend with. Construction is what the world forces to recognize of the world itself.³

In the lesson by Florenskij it is clear that ‘composition’ and ‘construction’ have to be a unit: this is really true in Architecture. This means that form and space are indissoluble in Architecture: the first cannot exist without the second and vice versa. This is a possible definition of what is the Truth in Architecture: unity of composition and construction, of form and space in order to build places for the human inhabiting.

Moreover, this is the lesson that the main part of the contemporary architecture seems to have lost, taking care of building, not spaces for inhabiting but images to be sold as products of a global market. On the contrary, it is a lesson that we can still recognize in the work of the great Masters of Architecture: among them Louis I. Kahn who gave one of his definitions of our discipline, saying: “Architecture is the thoughtful making of spaces. It is the creating of spaces that evoke a feeling of appropriate use”⁴. This definition is very near to that of the philosopher György Lukács who wrote “Architecture is a construction of a real and adequate space that visually evokes adequacy.”⁵ Both definitions concern the idea of adequacy/appropriateness that Architecture should evoke: in other words, works of architecture should be able to represent collective values in which people can recognize themselves.

2. SOME “TRUE” WORKS OF ARCHITECTURE BY LOUIS I. KAHN: THE U.S. MUSEUMS

The man inhabits not only his house but the world: in this sense every works of architecture can be referred to an idea of house. However, the way our life dwells in buildings is different. If the house is dwelled in a private way, other types of buildings are dwelled as by

² P. Florenskij, *Lezione settima* [in:] P. Florenskij, *Lo spazio e il tempo nell'arte*, Adelphi, Milano 2001, pp. 305–315.

³ *Ibidem*.

⁴ L.I. Kahn, *On Form and Design*, Journal of Architectural Education, 1960, vol. 15, no. 3, pp. 46–63.

⁵ G. Lukács, *Estetica*, Einaudi, Torino 1960, p. 1210.

a community and, furthermore, they don't have only the task of hosting activities but also of representing the values and the meanings that a community gives them. The Museum, within public buildings, is the one that allows the broadest reflection: it shares, with the Library, the thematic instance of giving sense to a place where the 'products' of the human culture – that in the case of the museum have also an aesthetic value for themselves – are stored, and as in other 'sacred' spaces, is the celebration of something that transcends through art, the humanity, because it is inspired by the *muse* for whom the museum is home. Museum, originally the *μουσείον*, is the place where daughters of Zeus – the most important god of the Olympus, and Mnemosyne – a *titanite* that personifies 'memory', live. Starting from the oldest we know, built in Alessandria in Egypt, not by chance near to the Library, the museum has been a place to preserve but also a place to 'activate knowledge' and, in this way, the place par excellence of the thought and knowledge and of their transmission. Maurice Halbwachs defined the *collective memory* as "the whole of the traces of the past that a social group retains, elaborates and passes on from one generation to another in relationships with the materials of our history and with the contents of its traditions"⁶: materials and traditions that are in what is *contained* in the museum but also represented in the museum as *container*.

Regarding the idea of museum as a path, during the twentieth century, two big Masters introduced significant innovations of sense. The first is, obviously, Mies van der Rohe with the Museum-Temple in Berlin and the second, whose work will be here discussed, is Louis Isadore Kahn with the Museum-Storage. This theme for the museum is suggested by the Lou Kahn un-built project for de Menil couple in Houston through the different versions elaborated and in particular the sketches and the drawings that the architect titled literally *The storage*. The word storage (*deposito* in Italian) comes from the Latin *depositum*, past participle of *deponere* (depose) – to put down but also to preserve – and indicates the act with which and the place where an object is deposed or is *entrusted* to one person (to an institution) so that it can be preserved and then *given back*. Related to this etymological meaning, very similar to the current meaning of the word *scrigno*/coffer that Kahn used for the museum, there is the possibility of interpreting the Museum-Storage proposed by Kahn to John and Dominique de Menil as one of his 'places of inspiration' – inspiration to study, to meet, to expression⁷. The museum in Houston – this is the innovation – is no longer a place where materials are ordered – certainly not in a chronological path – but rather preserved, stored and left to a more free fruition as well as a space where unplanned activities take place. This idea of a museum as a storage – in this sense neutral when referred to the exhibition program – is a possible key of lecture of the three museum buildings by Kahn: the two buildings for Yale University in New Haven in Connecticut and – chronologically in between the *Yale University Art Gallery* and the *Yale Center for British Art* – the *Kimbell Art Museum* of Fort Worth in Texas. Following this reasoning, it is surprising that many pages have been dedicated to the description of the functional/exhibition programs of the clients while these don't find a mechanistic correspondence in the plans of the architect that, on the contrary, stand out for their typological clarity and for the relationships with the context as well as for the significant spatial qualities.

⁶ M. Halbwachs, *La memoria collettiva*, Unicopli, Milano 1987.

⁷ L.I. Kahn, *Remarks, Perspecta*, 1965/1966, no. 9–10, pp. 303–330.

Louis Kahn started working at the project for the *Yale University Art Gallery* in 1951 (Ill. 1 and 2), after his trip to Italy, Greece and Egypt and, even if in a very short time, elaborated, as always, more than one version of the project; in this case, differently from what he will do for the other Yale building and for the *Kimbell*, not substantially different. Probably the reason is that the project – an enlargement of the existing gallery – is ‘constrained’ inside an area well delimited to the south and the west by streets and to the east by the old gallery, facing to the north others buildings of the college.

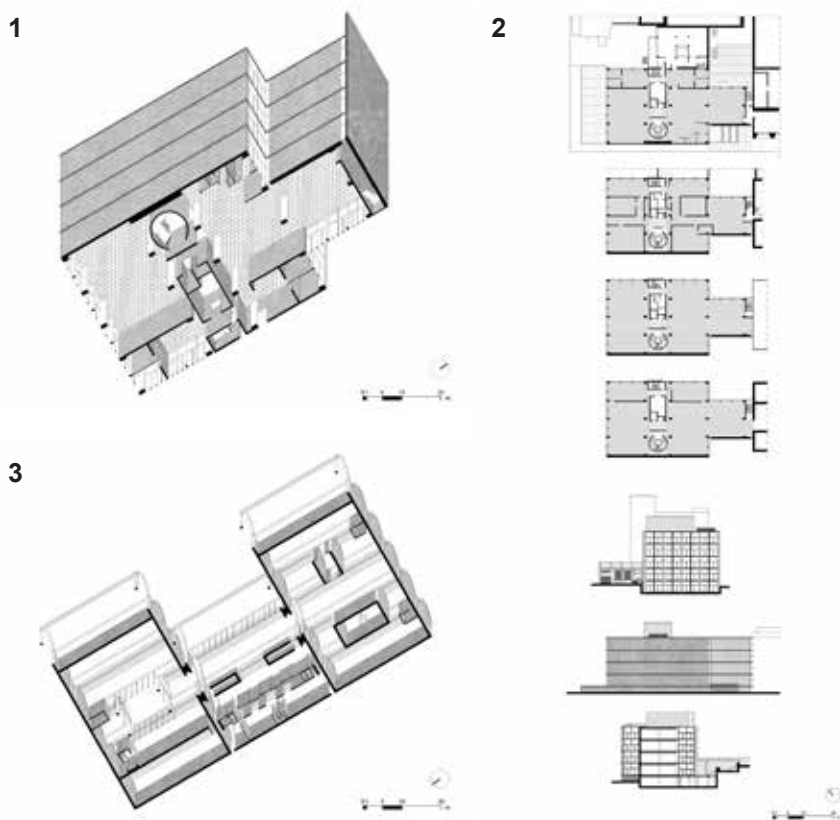
The building presents a rectangular plan where it is possible to note a central core for services and vertical connections occupying all the building thickness from north to south and 1/5 from east to west, sides where there are two wide and undivided rectangular spaces – ratio 3 to 5 – for exhibition at the ground, second and third floor and for offices at the first floor. A squared block, set back from the gallery façades, establishes a connection to the east with the pre-existing building. Kahn solves the matter of the relationship with the context and of the interior spatial quality through only two moves, with a simplicity that is not the starting point but the goal of clever work.

First move. Exterior space. The south façade, along Chapel Street, is completely blind and in brick, marked by drainers in correspondence of the floors that some sources refer to later modification. The façade is only characterized by the shifting back of the block of connection with the old gallery that, nevertheless, “reveals” the entrance to the Art Gallery, if coming from the old campus in the frontal view. The entrance is completely in glass for the four levels, signed by metallic profiles as the other orthogonal façade along York Street and the transparent façade on the *garden of sculptures* that reveals the life inside the building. It is, in the opinion of the author, a solution that takes to the limit and further the idea of the ancient-new relationship, inaugurated twenty years before by Erik Gunnar Asplund with the project for the enlargement of the Town-Hall in Göteborg. If Asplund re-proposes the structure of the façade of the Swedish town hall like an undercut and an abstraction of the stylistic features of the existing building, Kahn brings the abstraction to an absolute level and designs this “silent” front that hides and unveils, at the same time, the place of the entrance.

Second move. Interior space. Two lines of five pillars with 6 metres wheelbase represent the structure that cage the service block, the security staircase to the north and the triangular staircase included in a cylindrical volume. Here the fair-faced concrete prevails and the ceiling is lowered with a metallic structure, also metallic are the balusters and handrails, while the floor, within the beams projection, is black. Sideways to this servant space, two served spaces – and undivided – of about 15 by 25 metres, with a light wooden floor, are “cleaned” thanks to structural solution for the concrete slab that engineer Henry A. Pfisterer, that worked in strict cooperation with Kahn, described as a “[...] multiplanar truss system (space-frame) of equilateral triangles with the entire top surface filled in to provide the floor and with alternate inclined triangles in each of the three dimensions also made solid.”⁸ The structural solution is also an architectural solution able to give form to the exhibition spaces allowing every equipment, both for lighting and for panel disposition for the works of art that Kahn thought lockable to the ceiling texture and placed on the floor only through thin, metallic feet.

⁸ Quoted from: P. Cummings Loud, *The Art Museums of Louis I. Kahn*, Duke University Press, Durham NC 1989.

More than ten years have passed, when Kahn worked again on the museum theme, now in Texas, in 1967, on the construction of the new location for the Kimbell Foundation (Ill. 3 and 4). The building was inaugurated in 1972, reaching the realized form after a long series of different solution elaborated, above all due to the continuous budget revisions. The context where Kahn operated was really different from New Haven: Fort Worth is a populous but “widespread” centre, to the west, boundary of the Dallas metropolitan area and the project area was without clear urban references, near the huge complex of not significant architectural quality *Will Rogers Memorial Center*. Kahn elaborated some solutions of a museum as a single squared volume and then he articulated the volume in two different dimensions connected by a passage, always aligned along Lancaster Ave, on the south side of the plot. The final solution shows a rotated building, placed with the longer side on the north-south axis, in the back of the plot. The volume is now disarticulated in two symmetrical blocks hinged to a central block that defines the architecture of an entrance to the garden-forecourt



- Ill. 1. Louis I. Kahn. Yale University Art Gallery. Axonometric view from below. Drawing by Roberta Esposito
- Ill. 2. Louis I. Kahn. Yale University Art Gallery. Plans, elevations on York Street and Chapel Street, section. Drawing by Roberta Esposito
- Ill. 3. Louis I. Kahn. Kimbell Art Museum. Axonometric view from below. Drawing by Roberta Esposito

before the construction of the pavilion by Renzo Piano interrupted the perspective path that Kahn has designed in order to build this museum – probably for the absence of urban references – as a *villa surrounded by a garden*. As for the *Kimbell*, it could actually be possible to say, differently to what affirmed for the *Yale Art Gallery*, that all is solved by only one move: the span of 32 by 7 metres, with the longer side in the north-south direction, covered with a cycloid vault, repeated six times in the two lateral blocks and four in the central. Again, coherently with the thematic interpretation of the *villa*, the spans toward the museum entrance become *loggias* with porticos and the last span is opened in the central block of which the façade is completely glazed. Also in this way, it is possible to interpret the patios inside the building: the largest is in the north block and hosts a female figure by Aristide Maillol; another one, smaller, is in the south block and accommodates a sculpture by Émile-Antoine Bourdelle; the last is accessible from the basement and it is useful for illuminating some office spaces. The exterior appearance of this building, only 6 metres high, is based on the volumetric articulation of the principal façades and on the simple alternation of the concrete structure and the stonewalls. Thanks to the basement construction, the ground floor could be free of all the service activities (less than the two-level auditorium in the west span of the north block and the library in the central block). In this way the cleared space of the two avant-corps is defined only by the “galleries” that the roof solution transforms in space – indeed elaborated with engineer Auguste Komendant, despite the many “stories” about this cooperation⁹ – thanks to the cycloid vaults longitudinally cut in order to place a skylight with a device for light reflection, able to give to the space a *silvery* light without damaging the works of art. Between two galleries, “U” shape beams cover an area with flat and lower ceiling, with a different flooring; the beams host the plant ducting and pipes and produce different spatiality available for exhibitions; moreover, they are a lateral stiffening for what we’re called, incorrectly, vaults: incorrectly because they are, centrally emptied, thin shells that combine the behaviour of an arch and a beam.¹⁰ Many authors have analogically linked the *Kimbell*’s structure to the project for *Louvre Gallery* by Hubert Robert¹¹ but perhaps it is possible to think that Kahn has realized the Boullée’s dream.

Kahn worked again for Yale University in New Haven in 1970 with the project for the *Center for British Art* (Ill. 5 and 6), a building opened to the public in 1977, three years after the architect’s death but well-defined already in 1974 in its fundamentals. Along Chapel Street the building is at the corner with High Street, opposite to the *Art Gallery* but isolated and in an independent position, without any constraints on the fourth fronts. Even if the building is more complex and larger, with more floors than the gallery, multifunctional (for example with shops on the ground floor along the streets), also here it is the span – now squared, 6 by 6 metres – that represents the underlying structure of the composition, able to give an order to all the spaces. The sequence, for nine times, of the two central spans longitudinally accommodates, on the ground floor, auditorium and the principal staircase – in the final solution very similar to the one in the *Yale Art Gallery* – and a squared and covered courtyard that represents the entrance hall from York Street. On the two higher levels, around the rectangular courtyard above the roof of the partially underground auditorium, Kahn

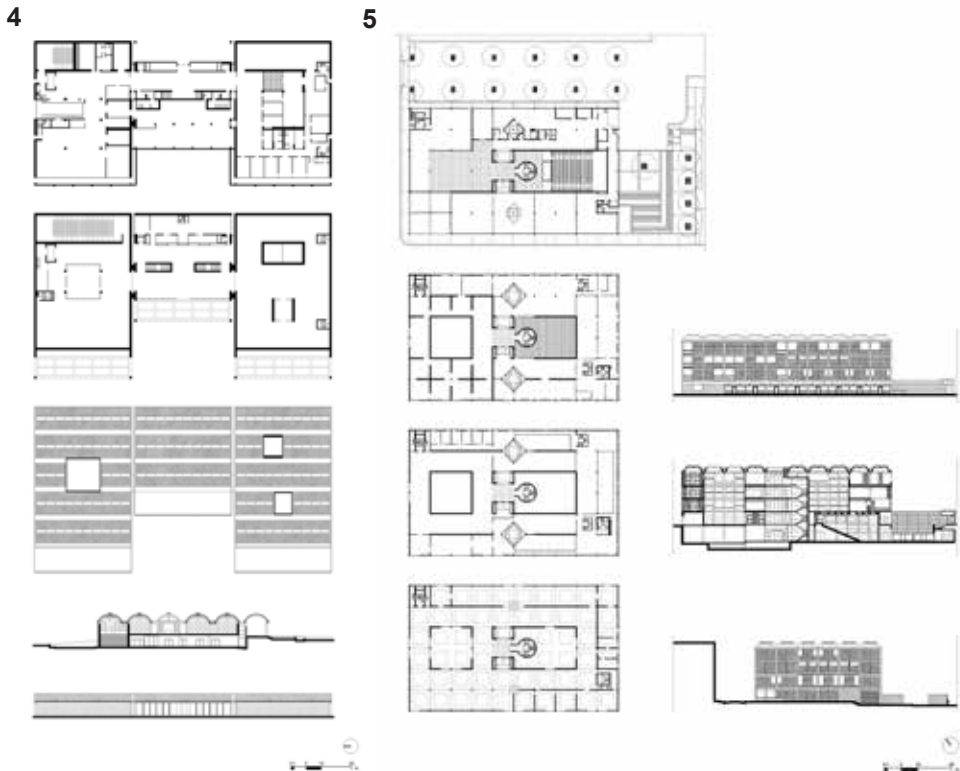
⁹ G. Nordenson, *The Lineage of Structure and the Kimbell Art Museum*, Lotus International, 1998, no. 98, pp. 28–48.

¹⁰ *Ibidem*.

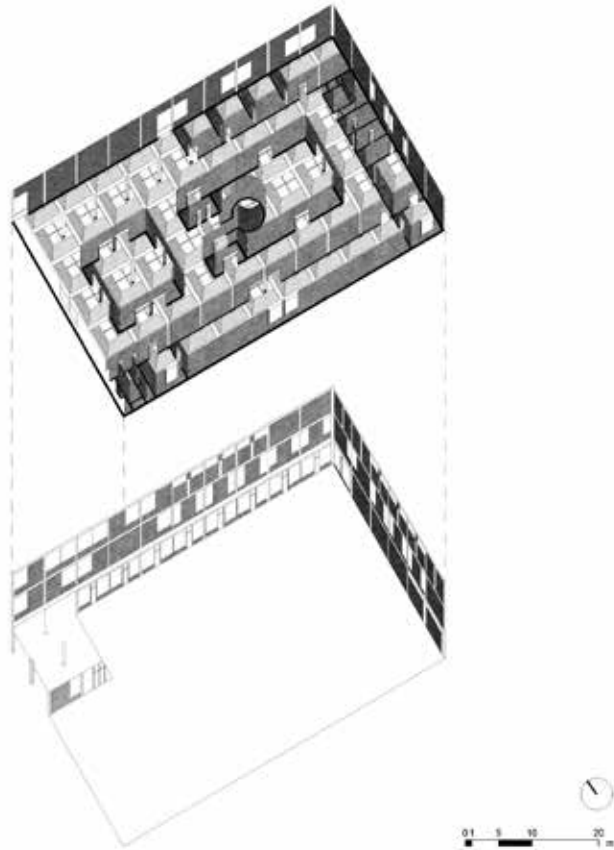
¹¹ *Ibidem*; P. Cummings Loud, *The Art Museums of Louis I. Kahn*, Duke University Press, Durham NC 1989.

realized a large library with two-level spaces while the exhibition spaces are placed around the squared courtyard. The third floor, including the two courtyards, is completely covered by the skylights with truncated-pyramidal structure in concrete that have the goal to define, as the *galleries* in Texas, the spaces of the *rooms* for works of art. Once again, The Kahn's museum, to the exterior, avoids monumentality and aims to the anonymity, relies to the frame exhibition in reinforced concrete, here closed by panels in brushed steel, but, thanks to the use of module and order, can allow any kind of variation: for instance denouncing, through beams' interruption, the double height of the library to the east.

The sudden death of Kahn prevented the project for the foundation of the de Menils in Houston to be perhaps the 'last word' about this idea of museum, as a storage of precious things that it is not necessary to ordinate in a stable way. As it is known, the building of the *Menil Collection* was built, about ten years after, by Renzo Piano, referring only partially to Kahn's idea and in an area near but different. The few preliminary drawings of the museum-storage, in addition to the general plans discussed at the beginning of this text, demonstrate that Kahn still hasn't defined a final idea for the *Menil Collection* but he was working on a building able to combine the *galleries* of the *Kimbell*, here placed around



- III. 4. Louis I. Kahn. Kimbell Art Museum. Plans, section and elevations. Drawing by Roberta Esposito
- III. 5. Louis I. Kahn. Yale Center for British Art. Plans, elevation on Chapel Street, section, elevation on High Street. Drawing by Roberta Esposito



Ill. 6. Louis I. Kahn. Yale Center for British Art. Axonometric view from below. Drawing by Roberta Esposito

a courtyard and not carved by patios, with the *rooms of Center for British Art*. “A museum could appear as a thing of little importance, until you realize it contains a treasure. A chest of precious knowledge. What place it could be!”¹²: this was the idea that Kahn has matured some month before receiving the commitment for the museum in Houston and that he would try to develop.

3. CONCLUSIONS

An interesting essay of the historian Jacques Gubler has already tried to demonstrate that a *rational discipline* is in the architecture of Kahn before the *compositional play* and this discipline is related to what Gubler defined as “[...] ‘gothicism,’ which is [...] in the figurative concomitance of plan and constructive system.”¹³

¹² L.I. Kahn, *The Invisible City*. *International Design Conference in Aspen*, Design Quarterly, 1972, no.86/87, pp. 41–44.

¹³ J. Gubler, *La campata è un tipo?*, Casabella, 1985, no. 509–510, pp. 76–83.

Overall, especially in the museums by Louis Kahn, really the conclusion of the essay by Gubler seems to be irrefutable regarding his architecture and his well-known knowledge of Viollet-le-Duc and Auguste Choisy: “From the sketches to the final step of the building site, the work of Kahn proposes, in its conceptual perseverance, the example (often virtuous) of a ‘typological logic’ in which the construction system is primary for the composition.”¹⁴

It is not by chance that the name of Auguste Choisy appeared: following his way of representation in the *Histoire de l'Architecture*, the buildings under investigation were represented with an axonometric view from below: able to represent concurrently a plan and section, typology and space. Moreover, all the museums by Kahn demonstrate that for him function is not the crucial point of architecture: central point in Kahn's project development has been the idea of space, well organized through typology. It is well known that Kahn has been reflecting deeply on human institutions and their sense more than on their functional organization: “As a professional, you are obliged to translate the program of a client into that of the spaces the institution this building is to serve. You might say it is a space-order, or a space-realm of this activity of man [...]”¹⁵ (Kahn to his students), and also: “I never read a program literally [...] It's like writing to Picasso and saying ‘I want my portrait painted ... I want two eyes in it ... and one nose ... and only one mouth, please.’”¹⁶

Kahn has been sometimes defined a functionalist: but this is really a lie! Kahn loved, above all, the Pantheon and he said of that extraordinary building: “When Hadrian thought of the Pantheon, he wanted a place where anyone could come to worship. How marvellous is the solution. A circular building incompatible with any organized ceremonial”. This means that Kahn believed architecture is the discipline able to represent human institutions and it should be recalled that institutions derive not from function but from the ‘rites’.

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¹⁴ *Ibidem*, pp. 76–83.

¹⁵ L.I. Kahn, *Talks with students*, Architecture at Rice, 1969, no. 26, pp. 1–96.

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