

Columns of Light

Louis Kahn's Design For Sanctuary Of The Mikveh Israel Synagogue (Philadelphia, 1961-72)

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Abstract

*The conference theme of quotation is addressed by considering Kahn's studies during the 1950s of renowned past and present buildings, including medieval monuments in Albi, the Chapel Notre Dame du Haut in Ronchamp and the Temple of Apollo in Corinth. These will contribute to an interpretation of his scheme for the Mikveh Israel Synagogue (Philadelphia, un-built, 1961-72). Emphasis is placed on hollow columns, which he discerned in buildings seen when travelling in Europe and invoked in the synagogue project. Its most significant interior, which is the sanctuary, incorporates peripheral columns of light. In a series of sketches made in Albi, Kahn stressed that the Bishop's Palace and the cathedral are linked through their shared use of hollow columns. This informed work in his office on the Mikveh Israel project, specifically models that demonstrated the role of a basic column: it was adapted and repeated to create versions that articulate and connect the three main buildings. These are brought together as an ensemble. When studying the interior of Le Corbusier's building, Kahn noted that pilgrims worship within the three peripheral chapels. This inspired the scheme for the sanctuary, including a perspective from 1963, where members of the congregation are within hollow columns configured as luminous rooms. Analysis is based on two comparable drawings that accentuate light. In *The Room*, light resides within the two occupants. His sketch of Corinth's temple suggested that the limestone columns are not opaque but radiant. These two drawings prompt an account of Kahn's sketch of the sanctuary, where interplay of matter and light is an attribute of a worshipper and a hollow column. The human analogy is thereby distilled in a column.*

The Institution and the Urban Setting

While developing schemes for the auditorium of the First Unitarian Church (Rochester, New York, 1959-62), Kahn obtained the commission to construct the new synagogue for Philadelphia's longstanding institution of Mikveh Israel.¹ Design work began in 1961, with progress made in the summer of the following year. He resolved a scheme, which was represented in models and sketches from 1962 and 1963. These accentuate hollow columns, which are located at the periphery of the institution's three significant buildings. Kahn refined the composition over a period of several years. For instance, a model from the early 1960s documents the early design, where the main building has ten hollow columns. In a later model, the edifice is simplified, with only six such elements. However, alterations made throughout the 1960s did not undermine the role of hollow columns in setting out the logic of the entire scheme for Mikveh Israel. At the beginning of the 1970s, however, Kahn was instructed to make sweeping revisions. He addressed the limited budget by abandoning the columns adorning the buildings. Yet with this reduced scheme judged unacceptable, the commission was terminated in 1972.²

In a bird's-eye perspective showing the project and its context, the eighteenth-century Liberty Hall (1732-1751) appears in the background, while the rectangular site for the ensemble of synagogue buildings is in the foreground.³ The past monument and the envisaged complex of buildings are connected by Independence Mall. For Kahn, a person can appreciate the historical building before walking along the mall's east side and arriving at the site for Mikveh Israel. One continues along a path, with the institution's school and chapel on the left. A narrow space opens, which is defined on its east and west sides by the entrance fronts of the chapel and the main building. Having entered the larger edifice, a person passes into the foyer and then the impressive sanctuary. In the birds-eye perspective, this building's hollow columns refer to these two interiors. The entire complex is illustrated, where hollow columns that are roofed and fenestrated articulate the main edifice and the chapel. While such columns are within the school, they are configured as cylindrical courts.

The drawing refers to qualities of Kahn's design for Mikveh Israel, including the bold massing that derives from the columnar elements of the main building. His recent projects with hollow columns, such as the Richards Building at the University of Pennsylvania, contributed to the scheme for the synagogue. The innovation in this design from the late 1950s pertained to the laboratories and their rectangular-planned columns. This influenced Kahn's sketches from 1959 of Albi cathedral, where the exterior is enriched by the alternation of cylindrical elements and flat walls. These drawings inspired work on the Mikveh Israel project. In the birds-eye perspective of the complex, the largest edifice is characterised by its imposing massing, where hollow columns are connected by straight walls. The Richards Building and Albi cathedral were both critical to the edifice for Mikveh Israel. Kahn was aware that the building on the campus and the one envisaged for Mikveh Israel are on opposite sides of Philadelphia's Schuylkill River, yet linked by the shared regard for hollow columns animating an overall composition. The Richards Building, however, is distinguished by unadorned columns.

The sketch alludes to an additional quality of Kahn's synagogue project, which is the fenestration of the hollow columns articulating the main building and the chapel. His design strategy can be fathomed by referring to Liberty Hall, whose facades are adorned with human scaled windows. This building's association with the Declaration of Independence ensured its status as a monument. The bird's-eye perspective that shows the Mikveh Israel scheme includes only one historical edifice, which is Liberty Hall. Its vertically-proportioned windows were deemed worthy of emulation in designs for the buildings of the synagogue complex. Yet while not accentuated in the perspective, office drawings of the institution's main building show that the bold cylindrical forms incorporate three tiers of conventional glazed openings. With the Richards Building and Albi cathedral informing the design of this building, its columnar elements contribute to the powerful massing. However, the proximity and significance of Liberty Hall contributed to Kahn's design, where the curved forms are enhanced by human scaled windows. Seen from within the sanctuary, these openings assist in creating habitable columns of light.

The recently completed Richards Building, as well as respect for Albi cathedral and Liberty Hall, inspired his composition of Mikveh Israel's largest edifice, where the exterior is enriched by columns that are fenestrated, so that their commanding presence co-exists with a human scale.

Two models: a column and the formation of an ensemble of buildings

Ancient and medieval urban settings were invoked in the Mikveh Israel project, where the hollow columns of the three main buildings assist in bringing them together. Greek and Roman schemes are discussed before focusing on Kahn's visit to Albi, where his sketches show that hollow columns link two significant medieval buildings. The influence of the historical schemes on the synagogue project will be introduced by referring to work in his office, specifically the making of two carefully detailed models.⁴

Kahn's knowledge of the classical tradition, which was founded on lessons as a student of architecture, informed his appraisals of buildings seen during the winter of 1950-51 in Greece and Italy. According to the sketch of Corinth's temple, the Doric order's human character is encapsulated in proportions, as well as interplay of matter and light. Drawings from Rome, Ostia and Hadrian's Villa focus on buildings whose ornaments, including columns, have disappeared over time. Such ruins are impressive because, in his terms, their lack of superfluous adornments reveals underlying bold shapes and rhythms. Yet at the same time, Kahn's long-standing respect for classicism encompassed awareness that columns are essential to connections between buildings. In the early 1950s, he had the opportunity to study renowned examples in Rome, including imperial baths and fora. When viewing the Forum of Nerva, for instance, he could imagine the original composition, where columns adorned the two impressive structures, which are the temple and the perimeter walls. The columnar orders of these structures interlock to produce a unified setting. His esteem for Greek and Roman architecture underpinned a compositional theme, where columns are animated by light and indispensable to buildings that interact in the formation of an urban precinct.

Greek temples and Roman civic settings underpinned Kahn's sketches from 1959 of the columnar orders adorning the medieval buildings at the centre of Albi. He stood at various places within the town's main square to draw the cathedral. However, Kahn also crossed the bridge over the river Tarn to make further sketches.⁵ From this vantage point, he stressed the conjunction of the Archbishop's Palace and the cathedral rising behind. He focused on their walls, particularly the projecting elements. For him, these are not additions to structural forms, like the columns of a Roman building. As sketched, the enrichments to the walls of the palace and the cathedral are transformed into hollow columns. Kahn was concerned with the columnar orders of the two buildings, which are vital to their connection and formation of a decorous urban precinct.

Drawings exploring the link between Albi's Archbishop's Palace and cathedral were invoked three years later, when Kahn's 1962 scheme for the synagogue incorporated hollow columns to fashion an ensemble. While his solution is evident in the birds-eye view, the logic of the composition can be fathomed by comparing two models. One is of a single hollow column. This is related to a model, where the basic element assumes a role in the design of the interrelated buildings for the entire synagogue.

The first model, which comprises a sturdy base and the free-standing column, can be viewed in the round. A beholder studies the contained volume and the outer form. He or she notes that the raised floor level assists in establishing the importance of a space that accommodates members of the congregation. Windows in the back of the column serve as sources of light from outside, while two unglazed apertures on the front create the connection with the central space of the sanctuary. The latter openings, each with a curve at the top or the bottom, are cut out of the convex wall of the hollow column. A striking image is generated. For Kahn, this model suggests that the important activity of worship is associated with the column's presence as a sculptural object.

An individual can study the models of a column and the whole synagogue project together, to realise that they complement each other. This involves imagining the representation of the detached column at a slightly smaller scale. Moreover, its original shape can be retained or changed. Considered in this manner, the represented solitary column is germane to an appreciation of the versions in the three buildings of the additional model. While enclosed columns adorn the main edifice and the chapel, open ones configured as courts are within the school. The latter are exposed to the breezes, sun and rain. These cylindrical elements are rooms, whose walls have windows that illuminate the interiors of the building. The two models demonstrate that a fundamental column assumes qualities suited to the function of particular buildings.

The synagogue project was a source for Kahn's comment from 1966 about a 'hollow column...which became a court'.⁶ A person views the model of a single column, to note that it is a luminous room for a group of individuals. He or she may then look from above onto the additional model, to study the external massing of the buildings, where a connection is established between the eight columns of the sanctuary and the four of the school. This involves both buildings incorporating light-filled and habitable cylindrical spaces. Moreover, Kahn was concerned with openings in the walls of the two kinds of columns, which illuminate adjacent spaces. Yet unlike a hollow column in the sanctuary, the one in the school has become a court. The two models of the scheme for Mikveh Israel show that the irreducible element of a column was relevant to the design of enclosed and open rooms. This informed his statement about a hollow column as an interior or an external court.

The Forum of Nerva in Rome and the medieval centre of Albi contributed to an interpretation of Kahn's synagogue project for Philadelphia, where columns adorn the three significant buildings. The main edifice, which harbours the foyer and the sanctuary, has ten columns, while the less important chapel has four. The school incorporates columns that are courts. For Kahn, a person moves into and around the buildings, to appreciate their covered or open hollow columns. He or she also notes that the repetition of these luminous elements assists in unifying the overall composition. The ensemble of buildings for Mikveh Israel informed a principle that he summed-up in the 1971 didactic statement of *The Street*.⁷ This drawing's image of an urban setting and associated text refer to buildings that converse with one another. The outcome is an 'agreement'.

The Significance of a Hollow Column

According to Kahn's early 1960s scheme for the synagogue's main building, people move into the foyer and then the sanctuary's central or peripheral settings.⁸ Doors within the initial interior open directly onto the main space of the sacred room. However, the connection between the two interiors also depends on hollow columns. Four such elements are within the foyer, while eight enrich the oval shaped sanctuary. Two of the building's ten columns belong to both interiors. Worshippers within the foyer who do not pass through the doors on the main axis move into its flanking hollow columns. They ascend stairs to the raised perimeter spaces, which run along the north and south sides of the sanctuary. These outer series of volumes do not meet. Even though the raised volumes are distinct entities, Kahn referred to an 'ambulatory' surrounding the main setting of the sanctuary.

He was concerned with an individual who moves from the foyer into the hollow column on its north side; to then enter the series of elevated spaces. Having arrived in the second column, this person looks through the lower of two tiers of unglazed openings. The vantage point was assumed by Kahn when setting out a 1963 charcoal sketch of the sacred interior.⁹ His current scheme for the sanctuary was brought to life by illustrating worshippers within additional hollow columns and the central space.

For Kahn, a member of the congregation will study the drawing, to concede that the ritual's time-sanctioned settings have been enhanced by an extraordinary recasting of the periphery, which involved introducing hollow columns. He or she knows that the interiors of earlier synagogues for Mikveh Israel in Philadelphia comprise two kinds of spaces. The more important one, which is on the

main floor, has seats from men who face one another. Stairs lead to the second space, which comprises galleries for women. This division informed Kahn's reference to the scheme's 'high places for women'.¹⁰ According to the illustrated interior, worshippers seated within the main space and the raised surrounding volumes are brought together. This accompanied his replacement of the low-height, rectangular-planned galleries of a past synagogue with a rhythmic composition, in which impressive habitable columnar rooms are linked by narrow spaces. While the latter are not shown in the drawing, because they run behind the straight walls, he demonstrated that the institution's traditional arrangement of spaces can be enriched by the introduction of luminous hollow columns.

According to the sketch of the sanctuary from 1963, small groups of worshippers are within hollow columns that Kahn described as 'rooms of light'.¹¹ Like the single column represented in the model, each of the three versions in the perspective of the sacred interior has two tiers of unglazed openings. The lower one's shape is conventional, because its arch is at the top. This is not the case for the upper void, which is inverted to ensure that light from the column falls onto the adjacent canopy. Kahn's sketch of the sanctuary is concerned with a column, whose exemplary status depends on light and the occupants. The two inner openings of a cylindrical element provide a glimpse of the windows in the outer part of the curved wall. These apertures admit light that fills the circular-planned space. The unglazed voids in a column also frame a view of individuals within their space. A beholder of the perspective sketch may focus on a hollow column, to note that worshippers are immersed within the light of a delimited space.

Matter and Light: The Constitutions of a Human Being and a Column

Kahn's 1963 drawing of the sanctuary suggests that interplay of matter and light is an attribute of a human being and a column. An interpretation of this aspect of the sketch is introduced by referring to his visit in 1959 to the Chapel Notre Dame du Haut. The interior incorporates three peripheral chapels. These tall rooms were recalled in Kahn's design for the sacred interior, where worshippers occupy its hollow columns. The principle underpinning these habitable and luminous columns will be fathomed by comparing three drawings, which are *The Room*, the travel sketch of Corinth's temple and the perspective of the sanctuary. These show that the analogy in the sacred interior between a worshipper and a column is founded on shared constitutions: they are both made of matter and light.

Kahn's emphasis on hollow columns in several schemes from the 1950s contributed to his fascination with the chapels of the building at Ronchamp. According to his designs for the Yale Art Gallery, the Bath House and the Richards Building, served spaces are accompanied but servant ones, where the latter harbour prosaic human activities and functions within circular or square-planned hollow columns. An alternative to the subordinate nature of such elements was discerned within the interior of the Chapel Notre Dame du Haut. Kahn was aware that pilgrims move across the central setting to worship within an outer one. For him, Le Corbusier designed a hollow column that is not a servant space but a sacred interior. It is founded on a principle, where light establishes the analogy between a human being and a columnar room.

The three chapels of the building at Ronchamp influenced Kahn's design for the sanctuary, where worshippers are within the hollow columns. In Le Corbusier's composition, the central and outer spaces are directly linked. This was not the case for the sacred interior of the synagogue, where the ritual involved members of the congregation moving from the foyer into the raised perimeter spaces. Yet with the interior of the Chapel Notre Dame du Haut as a source of inspiration, Kahn realised that a hollow column can shed its servant status to assume the eminent one of accommodating participants in the religious ceremony. Such a re-evaluation of a long-standing strategy is evident in his perspective from 1963 of the sanctuary, where individuals are immersed within a luminous hollow column. A chapel in the building at Ronchamp was emulated in each hollow column of the sanctuary, whose character depends on light residing within the curved walls and space.

Kahn's fascination with interplay of matter and light, which enriched his 1971 didactic statement of *The Room* and early 1950s sketch of Corinth's temple, can be associated with the 1963 illustration of the sanctuary.¹² For him, light is an attribute of the didactic drawing's two occupants, as well as the illustrated Greek monument's corner column. A connection between these aspects of the two drawings contributes to an understanding of the sketch of the synagogue's sanctuary, where a transformation of matter into light underpins the analogy between a group of worshippers and its setting of a hollow column.

The classical tradition's concept of a human being as a type was invoked when Kahn included discussants in *The Room* and, eight years before this, worshippers in the perspective of the sanctuary. His late drawing accentuates a conversation, whose participants have outer and inner natures, conveyed respectively by charcoal lines and light. The window admits light that passes into the individuals and their architectural setting. Considered in conjunction with Kahn's comment from 1972 that 'we are spent light', *The Room* was unequivocal in its definition of a human being: he or she has an inner light.¹³ The didactic drawing prompts an interpretation of the illustrated sanctuary, where Kahn deployed the charcoal stick to outline each group of figures and its hollow column. Windows admit light that is revealed by the curved inner wall of the cylindrical form. *The Room* and the sketch of the sanctuary are founded on the type of a human being. In the drawing of the sacred interior, this is taken to mean a small number of worshippers, who are composed of light and therefore absorbed within the luminous space of a hollow column.

The Greek principle of the human analogy was endorsed in Kahn's representations of columns in Corinth's temple and the modern sanctuary. For him, the anthropomorphism of the ancient building's corner column was respected in the sketch, where the limestone is no longer solid but radiant. This depended on the use of pastels; whose colours are predominantly translucent. In the polychromatic drawing of the temple and the monochromatic one of the sanctuary, the human demeanour of a column is embodied in its light. The relevance of the principle was conceded in the later sketch, through the inclusion of figures within a luminous hollow column.

The Room and the sketch of Corinth's temple offer insight into the perspective of the sanctuary, where the transformation of matter into light applies to a group of worshippers and its setting of a column. Comparisons between Kahn's three drawings, made during a period of twenty years, reveal two interlinked themes. The first concerns the type of a human being, which is defined by material outlines and an inner light. This was illustrated in the guises of discussants in *The Room* and worshippers within a column of the illustrated sanctuary. In the second theme, the interplay of matter and light pertains to a column. The idea was initially illustrated in Corinth's temple, where the corner column is suffused with light. This influenced each peripheral column of the illustrated sacred interior. A co-existence of the two themes can be imagined by associating the figures in *The Room* with the privileged column in the sketch of the Greek monument. This focuses attention on an aspect of Kahn's perspective of the sanctuary, where a group of worshippers and a hollow column are brought together on the grounds of shared constitutions: each has a material nature and an immaterial one conceived as light. He demonstrated that light establishes the analogy between a human being and a column.

Buildings that Kahn viewed in Europe during the early and late 1950s contributed to an interpretation of his scheme for the sanctuary. The underlying theme pertained to hollow columns. These set out the order of the envisaged buildings for Mikveh Israel. Kahn was also concerned with interplay of matter and light, which is essential to the analogy between a human being and a hollow column. This luminous and habitable form was privileged in the composition of the synagogue's sacred interior.

Endnotes

¹ The Mikveh Israel Synagogue is discussed by Michele Taillon Taylor, in David Brownlee and David De Long, *Louis I Kahn: in the Realm of Architecture* (New York: Rizzoli, 1991), 362-367. The design was resolved in a plan inscribed 23 October, 1962. This is illustrated in Brownlee and De Long, *Louis I Kahn: in the Realm of Architecture*, fig. 479, 364.

² The commission is discussed in Susan G. Solomon, *Louis I. Kahn's Jewish Architecture: Mikveh Israel and the Midcentury American Synagogue* (Hanover, New Hampshire: University Press of New England, 2009); and Eugene J. Robinson and Ranana Dine, 'Mikveh Israel and Kahn: New Information', *The Pennsylvania Magazine of History and Biography*, 140, 2 (April 2016), 211-230.

³ For the birds-eye view of the site for the synagogue, see Heinz Ronner and Sharad Jhaveri, *Louis I. Kahn: Complete Work, 1935-1974*, 2nd ed (Basel and Boston: Birkhäuser, 1987), MIC 37, 195.

⁴ For the model of the synagogue project, see Ronner and Jhaveri, *Louis I. Kahn: Complete Work, 1935-1974*, MIC 26, 194.

⁵ For the sketch of the Archbishop's Palace and the cathedral from across the river (which is titled by Hochstim as 'View from the river, no. 4', see Jan Hochstim, *The paintings and sketches of Louis Kahn* (New York: Rizzoli, 1991), fig 470, 326.

⁶ Louis Kahn, 'Berkeley Lecture, 1966', *Perspecta*, 28 (1997), 23, 29.

⁷ For *The Street*, see Louis Kahn, 'The Room, the Street and Human Agreement. A.I.A. Gold Medal Acceptance Speech, Detroit, June 24, 1971', *A. I. A. Journal*, 56, (September, 1971).

⁸ For the plans of the sanctuary, see Ronner and Jhaveri, *Louis I. Kahn: Complete Work, 1935-1974*, 192.

⁹ See Brownlee and De Long, *Louis I Kahn: in the Realm of Architecture*, fig. 479, 364.

¹⁰ See Brownlee and De Long, *Louis I Kahn: in the Realm of Architecture*, 364; and Alexandra Tyng *Beginnings: Louis Kahn's Philosophy of Architecture* (New York: John Wiley and Sons 1984), 167.

¹¹ See Brownlee and De Long, *Louis I Kahn: in the Realm of Architecture*, 364; and Tyng *Beginnings: Louis Kahn's Philosophy of Architecture*, 167.

¹² For *The Room*, see Kahn, 'The Room, the Street and Human Agreement. For the impressive sketch of the temple, see Eugene J. Johnson and Michael J. Lewis, *Drawn from the source. The travel sketches of Louis I. Kahn*, (Cambridge, Mass and London: MIT Press. 1996), 107-109; and Hochstim, *The paintings and sketches of Louis Kahn*, fig 182, 280.

¹³ See Louis Kahn, *Writings, Lectures, Interviews*, Alessandra Latour (intro. and ed.), (New York: Rizzoli 1991), 273.

