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The Yale University Art Gallery by Louis I. Kahn

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I
View of the fourth floor drafting room.

The Yale University Art Gallery by Louis I. Kahn

ALEXANDER PURVES

When I entered the School of Architecture in 1958, the drafting room occupied the fourth floor of the Yale University Art Gallery, which had opened in the fall of 1953. Working in that building day and night had a profound effect on those architecture students fortunate enough to be there at that time. The building itself had a particular influence on those beginning students who were desperately trying to understand what architecture was about and how to even begin thinking about design.

Kahn's effort to clarify the essential elements of architecture and of building, to make them visible and understandable, was all around us. Even though the building was not designed primarily to be a school of architecture, I cannot imagine a better environment in which to begin to consider the making of buildings. Kahn may not have been very interested in the social and political interpretations of architecture that have dominated recent criticism, but he cared passionately about material, structure, and geometry as they formed space. As a student one could not help but absorb some of that passion.

Following my first year, I spent three years in the U.S. Army and returned to the Kahn building for one last year before the School of Architecture moved into the new Rudolph building in the fall of 1963. Already

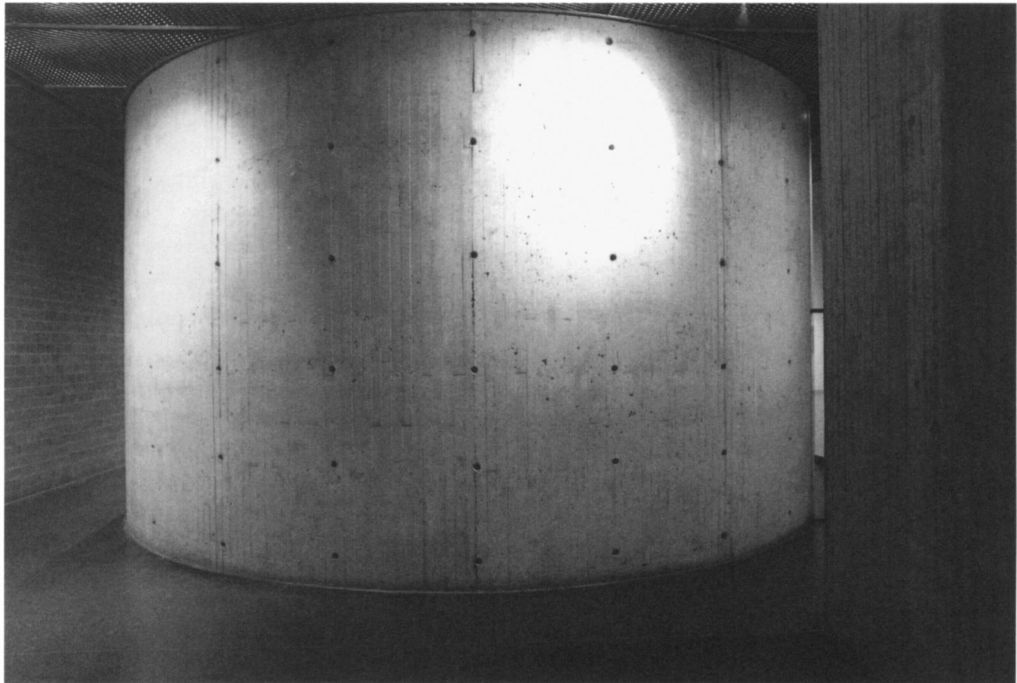
the wind had shifted. As students we climbed all over the Art and Architecture Building at night while it was under construction (it never looked as good again), marveling at the interpenetrating spaces, the visual complexity, and the unexpected, death-defying drops. A new freedom had been released, but in an obstinate way, and — especially for those of us who had spent our most formative years in it — the Kahn building, standing firmly across the street, remained the benchmark.

Opposite the dazzling virtuosity of the A&A, the Art Gallery seemed circumspect and laconic. But its lessons were then — and remain today — fundamental: how to use geometry to order a plan; how to use structure to make that plan spatial; how to distinguish between the constituent elements of a building; how to relish differences between materials and to use each appropriately; how to make every detail contribute to the logic and consistency of the whole. Above all, the building demonstrated to us that architectural decisions are important.

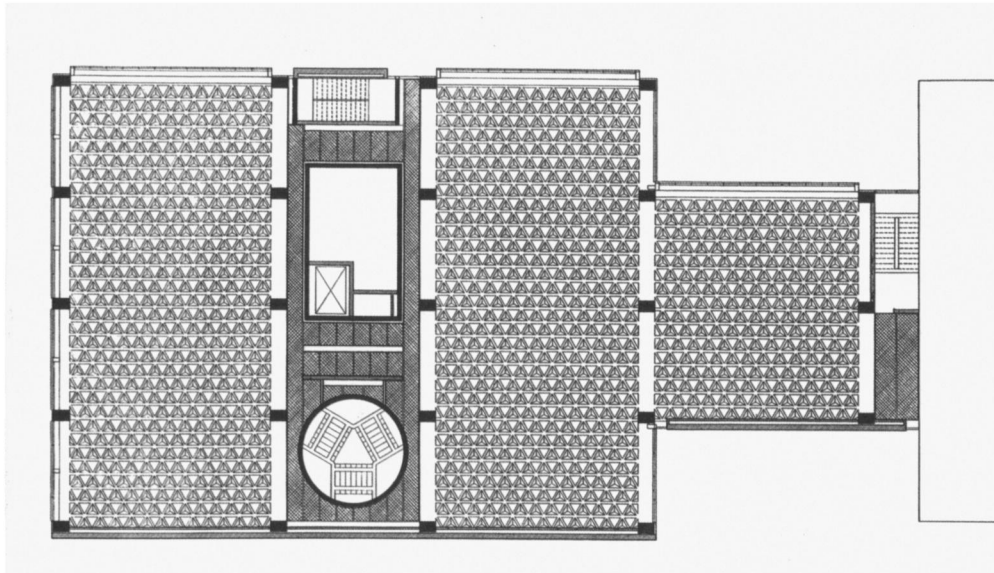
To students in 1958, the architectural order of the building was clearly apparent. The entire drafting room floor was empty of any partitions. The full extent of the structural ceiling and its supporting columns, the exterior walls, and the freestanding elements of the core were all visible. Nothing



2
View of the interior before the installation of
partitions.



3
View of the interior showing the cylinder of the
main stair.



obstructed the reading of those basic architectural elements. In the years that followed, as more and more partitions were inserted, as windows were blocked, and as even that great cylinder of the stair was hidden, it became harder and harder to perceive the underlying order of the building. One was forced to refer to drawings of the original plan to be reminded of its clarity.

The geometric order of the Gallery's plan is clear if one focuses on the larger, western portion of the building. Its central core is flanked symmetrically by two open spaces, each forty feet wide and eighty feet long. The narrower, eastern portion of the building should be seen as a link between the new building and the old. For years the reading of this portion as a link was impossible because the east windows were blocked on the Gallery floors. Now that these windows are again revealed, one can see the outside wall, and, when seen together with the open windows on the west wall, one can register the full extent of the space.

The massing of the building may reflect the history of the project, which has been recounted many times, most extensively by Patricia Cummings Loud in *The Art Museums of Louis I. Kahn*. To a remarkable degree

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Yale University Art Gallery: Reflected ceiling plan.

the shape of the Kahn building recalls earlier schemes for the Gallery addition, particularly Philip Goodwin's plan of 1941. This design included a rectangular volume on the west portion of site that was joined to the older building by a recessed link. This link accommodated the entrance.

Although the massing of Kahn's building is similar to Goodwin's, the plan (fig. 4) is entirely different. It is a plan that can be diagrammed easily. Those parts of the building that must be enclosed (fire stairs, elevators, mechanical shafts, toilets) are gathered into a central zone away from the perimeter. This central core is flanked by two open spaces, the other three sides of which are unencumbered. These open spaces provide the flexibility demanded by the original program, which called for studios, seminar rooms, and offices, as well as galleries. Kahn used a similar plan diagram, notably in the Tribune Publishing Company Building of 1958–61 and, on a much smaller scale, in the Esherick House from the same period, which includes a second service zone.

The diagrammatic clarity of the plan is reinforced spatially by the building's structure, which emphasizes the integrity of the two open areas by framing each with one uninterrupted forty-foot span. Structurally these spaces are not directly dependent on the central core. Mechanically, however, the core acts like the trunk of a tree carrying services vertically. At each level these services branch out, threading air ducts and electrical raceways through the openings within the depth of the ceiling structure to supply any location on the floor.

This kind of plan clearly distinguishes between those spaces that are geometrically clear, are generous, and house the building's major functions and those that are subordinated to the major spaces but are necessary to support them. In Kahn's terms these are "served spaces" and "servant spaces." This deliberate creation of a spatial hierarchy separates Kahn's conception of the Gallery from the modernist desire for undifferentiated continuous space that characterized Philip Goodwin's schemes of 1941 and 1948. These schemes were structured by an undifferentiated grid of columns, much like the Museum of Modern Art, which Goodwin had designed with Edward Durrell Stone in 1939. When Kahn took over the commission in 1951, he too began by assuming a similar ubiquitous grid, but he gradually left it behind in favor of the hierarchical, structurally defined spaces that dominate his work from then on.

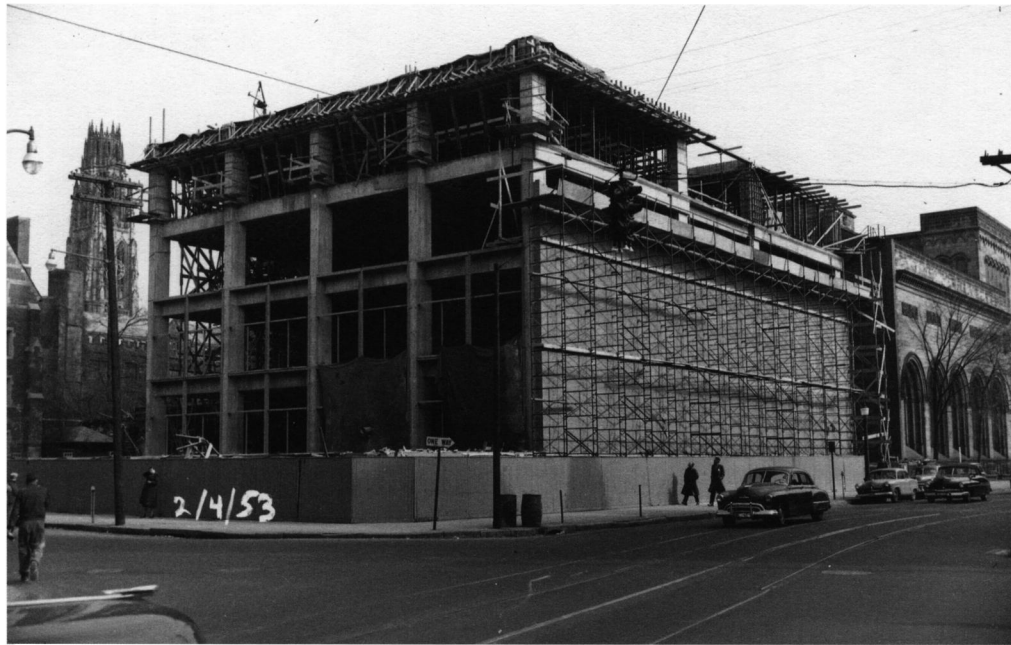
As can be clearly read in the plan, each component of the building is distinct. The galleries are defined by columns carrying girders, which support the structural ceiling. Each stair stands alone. The main stair is a cylinder, the back stair a rectangle. The elevator and mechanical shafts are gathered with toilets and service closets to form another clear rectangle. Ducts, lighting fixtures, and electrical raceways, normally hidden, are also necessary and legitimate parts of a building and are acknowledged as such. All are clearly visible and take their

appropriate places in the hierarchy of building components.

Kahn relished these distinctions and addressed the issue of materials throughout the building in the same systematic way. Each material has its particular role to play, and each has its place in a hierarchical sequence that extends from the crudest — the reinforced concrete — to the most refined, that of the art objects themselves. The sequence reflects the stages of construction and the increasing refinement of the crafting technique. Pouring concrete is a far less precise operation than fitting a door frame, which in turn is less refined than painting a miniature. What is remarkable about the Art Gallery, however, is that each of the materials associated with a stage in the sequence is to be seen and registered. None is hidden or disguised.

Concrete is used for the primary element of the building — its structural frame: the columns, girders, structural slab, and the hollow cylindrical column of the main stair. Thus, when one sees concrete, one is seeing the building's most fundamental components, those elements that must be built first. Of all the materials, the surface of the concrete is the least refined, revealing the process of its fabrication. It retains the impressions of the narrow boards out of which the forms were made as well as the holes left by the form ties and the horizontal joints between the pours.

The structural frame is wrapped by a membrane that encloses the interior volume of the building. This membrane changes material depending on the situation that it faces. The most typical enclosure is a steel and glass curtain wall, which literally hangs outside the concrete frame. In front of a column, glass is replaced by limestone. The transparency of the glass is appropriate when facing the relative privacy of Weir Court, but when the building confronts Chapel Street, a curtain of brick is drawn across the entire face, preventing the glass from exposing the private activities of the building to the out-



side world—especially at night. The horizontal stone belt courses at each level shed water, but they also indicate that the brick is not a continuous bearing wall from bottom to top but is supported at each floor.

Entrance is gained not by piercing the brick wall with a unique entrance opening, but by pressing the Chapel Street face back, allowing access directly into the fabric of the building. This kind of informal entrance is typical of many of Kahn's buildings. One thinks immediately of the Exeter Library, of the British Art Center, and of the Hurva Synagogue project in Jerusalem, where entrance is not announced architecturally. Instead one finds one's way in through the outer layers of a geometric pattern that originates at the center, as opposed to a pattern that unfolds along one's line of travel.

Given the logic with which decisions of exterior material appear to have been made, one might expect the west elevation, which also faces a street, to be opaque. However, along York Street the building is set back about thirty feet, and the six-foot brick wall maintains a protective barrier, keeping the traffic of the street at bay. Originally this wall

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View of the building under construction.

surrounded an open courtyard at the basement level.

Just as the materials of the exterior membrane are distinct from the concrete structure, so also is the inside surface of that membrane distinct from the outside. Obviously, where the material is glass, this is not an issue, but the face brick of Chapel Street is backed by cement block on the interior. Like the poured concrete, the rough finish of the block is like a family secret not exposed in public. And yet, as with the narrow form boards of the concrete, Kahn was careful to specify a small dimension (4 x 6" block), thereby establishing a more delicate scale than normal (8 x 16" block), appropriate to the scale of interior spaces and ultimately to that of the art objects inside. The interior block walls are one story high and carry only their own weight, surrounding the service elements of the core. Next in the hierarchy of materials are the wooden partitions. Wood frame is more flexible than block and can more easily adapt to changing needs.



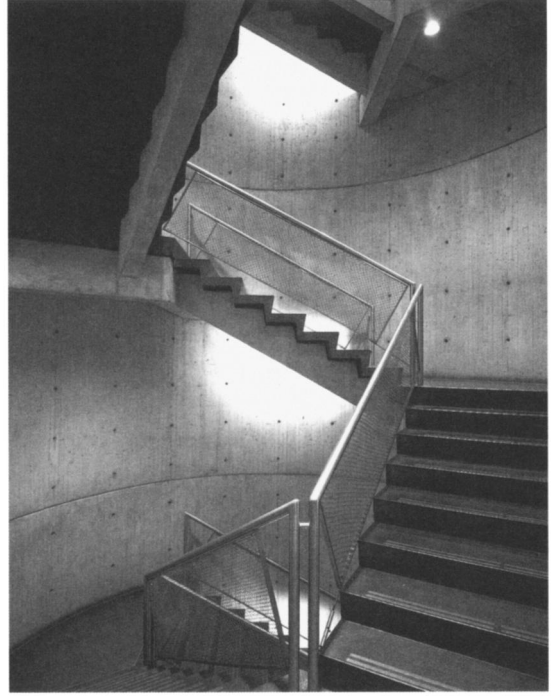
6
View of the building from Weir Court.



7
View of the building from Chapel Street.



8
Interior view.



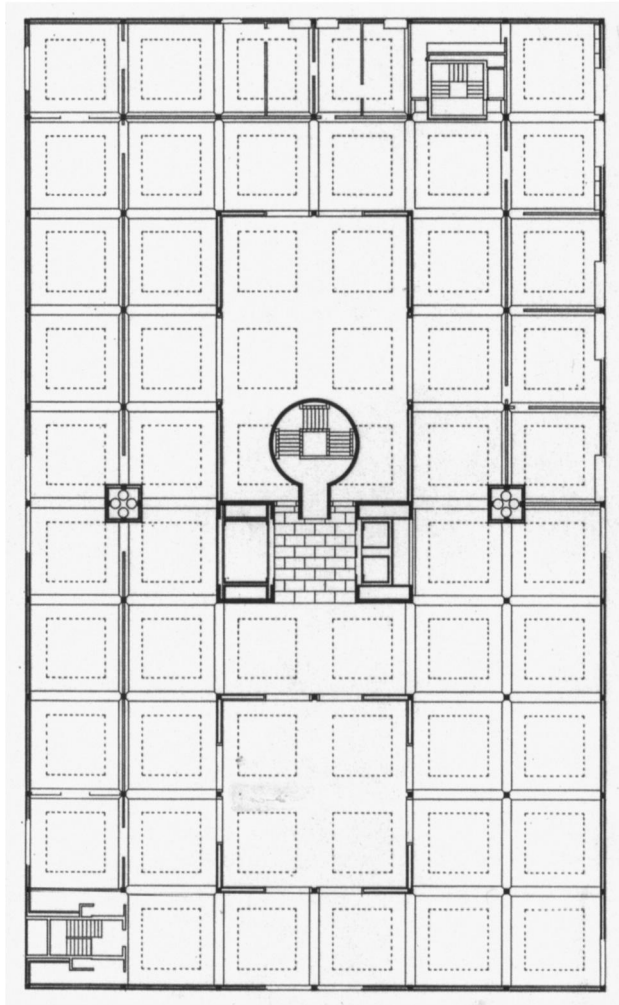
9
View of the main stair.

The greater refinement of the material and its detailing also reflects the fact that these are rooms that people will use, surfaces they will touch, doors they will handle. The “pogo” exhibition panels are the most flexible architectural elements and the most refined. If one recalls the construction sequence, they come last, their location governed only by the pattern of the ceiling.

The main stair is the glory of the building. As one might expect, it illustrates how Kahn’s systematic design thinking extends the full range from diagram to detail. The stair is efficiently positioned in the center of the plan. The cylindrical shape announces its importance. In the context of so much that is rectangular or triangular, the cylinder has an irresistible magnetism. It is made of concrete because the drum is acting as a column and rises continuously through the building. The flat walls that enclose the landings and frame the doorways are partitions supported at each level, and these are therefore built of

block. Terrazzo is used as a floor finish where there is the most foot traffic, at the entrance and in the core. Here on the stair it folds like a carpet—covering the surface that one walks on, clearly distinct from the concrete that supports it. Each run of the stair has its own handrail, a two-inch stainless steel tube that comfortably fits one’s grasp. It rises from one landing, turns to follow the hand, and turns down again, terminating at the next landing. The panel below the rail that prevents one from stepping into the void has nothing to do with the hand. It is a stainless steel mesh, appropriated from conveyor-belt technology. Although its strands are diagonally interwoven, its geometry is orthogonal. Its grain does not want to be cut on the bias so it is given its own rectangular frame. The panel’s attachments are the most refined element of the stair.

Within the galleries, the art objects themselves, whether they be medieval panel paintings or Brancusi sculptures, constitute the



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Yale Center for British Art: Fourth
floor plan.

final stage in the progression from rough to refined, from ordinary to extraordinary. They emerge as highly valued artifacts seen within an architectural context that is not pristine but which includes — like the societies that produced them — the gritty as well as the polished.

Whether or not a visitor to the Art Gallery observes all these material decisions and pauses to consider the logic behind them is not important. What is worth noting is that they follow a systematic way of thinking that is grounded in common sense. That is one of the reasons why Kahn's buildings are so accessible. One can generally determine the logic behind each decision. This is not

to ignore the astonishing intuitive process by which Kahn forged the geometric and spatial constructs of his buildings. But these constructs were always inseparable from an understanding of the materials that would bring them into being.

In the twenty years that intervened between the Art Gallery and the Center for British Art, Kahn mastered many of the issues that he faced initially in the earlier building. In particular, his handling of natural light became magical, not only at the BAC, but at Exeter and above all at the Kimbell Art Museum. And never again did he allow the primary spatial experience of his architecture to be at the mercy of secondary

partition locations. The plan of the BAC bears a surprising resemblance to that of the Art Gallery, a central linear core flanked by flexible spaces forty feet wide. But in the later building he controlled this flexibility by introducing a twenty-foot-square column grid that controls the partition arrangement. To even more effect, in the center of the building he introduced powerful, multi-storied voids, the library and entrance courts. Because they are visible from the galleries, these spaces orient the visitor and make the spatial order of the building apparent. At the Art Gallery, on the other hand, the central core is conceived as a group of solids. Only the stair is a memorable space. Kahn never made a more beautiful stair, but within the concrete drum one's experience is spatially isolated and therefore does not contribute to an understanding of the building as a whole.

Kahn's architecture is not interested in fashion. It seeks first principles and as a consequence can achieve a timeless cultural resonance. It demonstrates the interdependence of geometry and structure, of material and construction. It also makes a compelling argument for discipline in design.

Even though logic is manifest in the Art Gallery, it is not invariably consistent. The structural ceiling is not completely resolved; the heating risers seem oddly ad hoc; face brick turns up inside the back stair. This kind of anomaly bothered us enormously as students. From a distance of forty years, however, the Art Gallery has a certain poignancy precisely because it is not perfect, even on its own terms. One can see Kahn struggling a bit and can identify with that struggle.