

# Louis I. Kahn and the Ruins of Rome

by Vincent Scully

*Kahn wanted to deal with beginnings—with the primeval reality of architecture as a physical mass.*

**Kahn's mature style, in which he succeeded in "wrapping ruins around buildings"—buildings that appear to have neither glass nor function—is best represented by his great buildings on the Indian subcontinent. This is housing for government officials at Sher-e-Bangla Nagar, Capitol of Bangladesh, (1962-83) Dhaka.**

*Vincent Scully gave his lecture on Louis Kahn, from which this article is adapted, on November 12, 1992, as the first James Michelin Distinguished Visitor. The Michelin Distinguished Visitor Program was established by a gift from New York designer Bonnie Cashin to foster creative interaction between the arts and the sciences by inviting annually to Caltech visitors who will stimulate thought and discussion on a wide range of topics. Cashin, an influential fashion designer, with more than 60 screen credits for costume designs and numerous national and international awards, was the principal founder of the Innovative Design Fund to encourage the development of ideas from creative designers.*

*Why Caltech? Cashin established the program (as well as the James Michelin Scholarship Fund in Geology and Geophysics) in memory of her uncle, a consulting geologist and longtime resident of Arcadia, California. Michelin, whose lifelong interest in mathematics inspired Cashin's own interest in the shapes, forms, and relationships of design, earned his BS in geology from UC Berkeley in 1924 and was associated with a number of oil-field ventures in southern California. But his greatest, and unfulfilled, wish was, according to his niece, to return to studying—at Caltech.*

This is the first time I have been privileged to come to Caltech, and I'm very moved by the beauty of your campus. I think that it's only on the college campus, and especially on the American college campus, that architecture exists in its proper scale—not in terms of individual buildings trying to outdo others, but in terms of the creation of an environment as a whole in which buildings are designed to get along with the

others to shape a space—a theater for human action. Caltech's theater seems to be one of the gentlest, most cloistered and wonderfully empty campus spaces I've ever seen. Caltech must be the most elite of institutions because all day long I haven't seen anybody. And I find that I like that very much the older I get.

Caltech also demonstrates some of the basic truths about the problems of modern architecture; that is, once, before there was modernism, Caltech had a very good plan by Bertram Goodhue. To modern historians like myself Goodhue used to be the enemy, a Beaux-Arts architect who represented the past. But Goodhue knew how to put a town together. He knew how to put a campus together, and he knew how to design buildings that got along with each other and made a place. But along about World War II something happened. Perhaps it was the Depression and then war, and, I think, also the victory of the modernist idea itself, but all of a sudden we seemed to forget what architecture was all about. We began to forget that architecture consisted of buildings that were supposed to get along with one another, and instead modern architects wanted to do things that had never been done before. Buildings began to appear as attempts at the most original, the most unusual, the most exotic, the most decorative imaginable. Caltech has its examples of these too.

Now, Louis I. Kahn was a modern architect. He wanted to invent. He wanted to seem to make it all up out of his own head. He wanted to seem to have no identifiable sources. He refused to use historical details in his buildings, and yet,



**Above: Paul Cret's Federal Reserve building in Washington is an example of the "stripped classic" style popular during the New Deal. Unfortunately totalitarian governments were also fond of it. Below: George Howe's house (1924), with its primitive cylinder and suppressed glass, represents the order in which Kahn was trained and to which he ultimately returned.**



by the way he built, he did in a sense end one long basic development of modern architecture and begin something very new. In the 10 years that Kahn spent with us at Yale (he joined us in 1947), we had no idea whatever that he would ever be as important as he came to be. Between about 1960 and his untimely death in 1974 he became, I think, the most important architect in the United States, whose work changed things in a fundamental way.

Starting in the early twenties, modern architects wanted to be as free as modern painters were—as free to invent as the cubist painters who had just come on the scene, and as free from the shackles of responsibility. They wanted no contextual responsibility to the traditional city; they were, in fact, contemptuous of traditional urbanism. Buildings were to have no top, no bottom, no side, no up, no down—nothing that read of construction, but rather of composition.

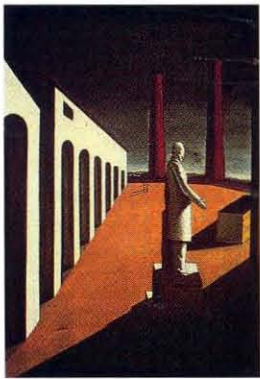
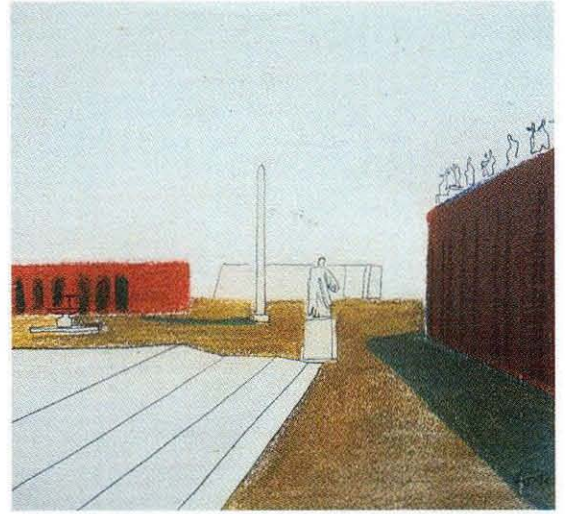
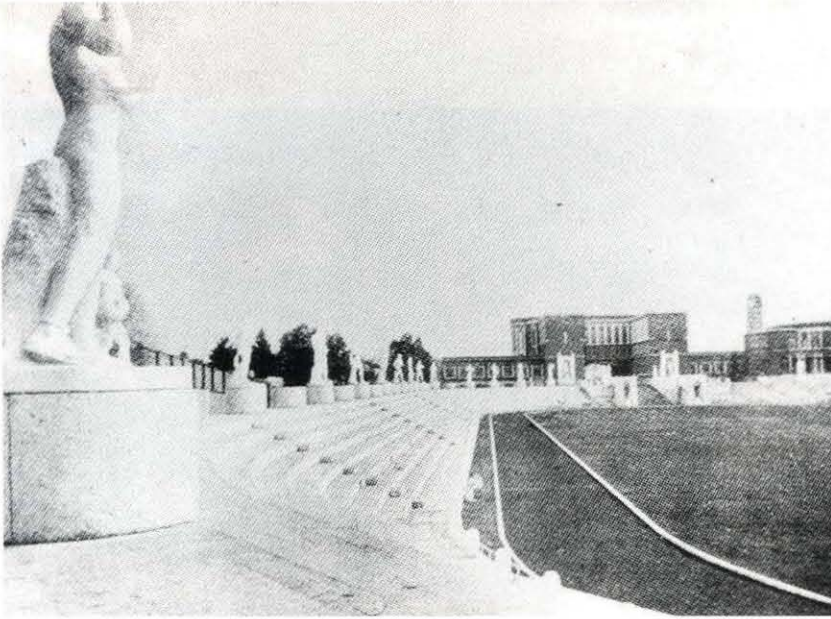
What Kahn did that was new in the high modernist period was to build buildings that were pure construction—buildings that showed nothing of the idea of composition and no trace of pictorial freedom. The connection with abstract painting, except in the abstraction of the forms that he insisted on, totally disappeared. He began to build buildings that looked like the very first kind of building that an architect might do, and he began to design only forms that were suggested to him by a structural system. His buildings had the basic architectural quality of being *constructed*. Kahn wanted to deal with beginnings—with the primeval reality of architecture as a physical mass.

Out of that came a lot of things, for example, the revival of the vernacular and classical traditions of architecture and their reincorporation into the mainstream of modern architecture, which has, in my opinion, been the most important general development in architecture of the last generation. Along with this came a revival of traditional urbanism itself, rescued from the contempt into which the modernists had cast it. Along with that revival, too, has come the most important mass movement in architecture—indeed, the only one that has affected the course of modern architecture: the popular movement toward historic preservation. That movement is now politically so powerful that it can drive architects kicking and screaming to respect the centers of our cities, to save them from destruction at the hands of departments of transportation everywhere and to rebuild what we once had.

Now, Kahn cared not a rap for revival of vernacular and classical traditions, for urbanism and historical preservation. He wanted to be just as inventive as other modernists and just as abstract, and he was determined not to use readily identifiable historical forms in his buildings. And because of that, he has also become something of a major divinity for the current neo-modernists who would like to claim him for their own and write his history in a way that would make him the first inventor, the hero-architect, once more shaping the world anew. This is not the way it went.

Kahn was trained in a clear order, the order of the Beaux-Arts, at the University of Pennsylvania under his great teacher, Paul Cret. Then he lost that order. He lost it so completely that he forgot what it was that he'd lost. And then he had to find it again, but he had to find it on his own new terms so that he could believe, deep in his soul that he *was* inventive, that he was, in a sense, making it all up himself.

The order in which Kahn grew up can be seen in a house built in 1924 by George Howe, who later became Kahn's partner in Philadelphia. It's a masonry structure with a wonderful, primitive, cylindrical form in which glass is suppressed; he gets the glass as much out of the way as he can so he has just the quality of a cylinder with a dark void cut in it. After Kahn graduated from the University of Pennsylvania in the late twenties, he traveled to Italy, looking at precisely that kind of architecture—solid, almost primitive, masonry masses with voids in them without glass. He drew these structures with a soft, flat carpenter's pencil and also painted them in watercolor. (Watercolors were associated with the Beaux-Arts period; modernism despised the watercolor as



**Mussolini's Foro Italico (top left) drew Kahn back to his modern-classic traditions when he sketched it in pastels in 1950 (top right). His drawing is reminiscent of the haunted shadows and arcades of the painter de Chirico (bottom) that evoked ancient themes antagonistic to modernism.**

effete, so Kahn kept them under wraps and most of us only later learned of their existence.)

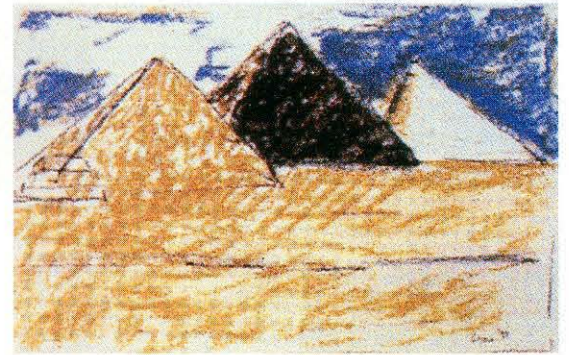
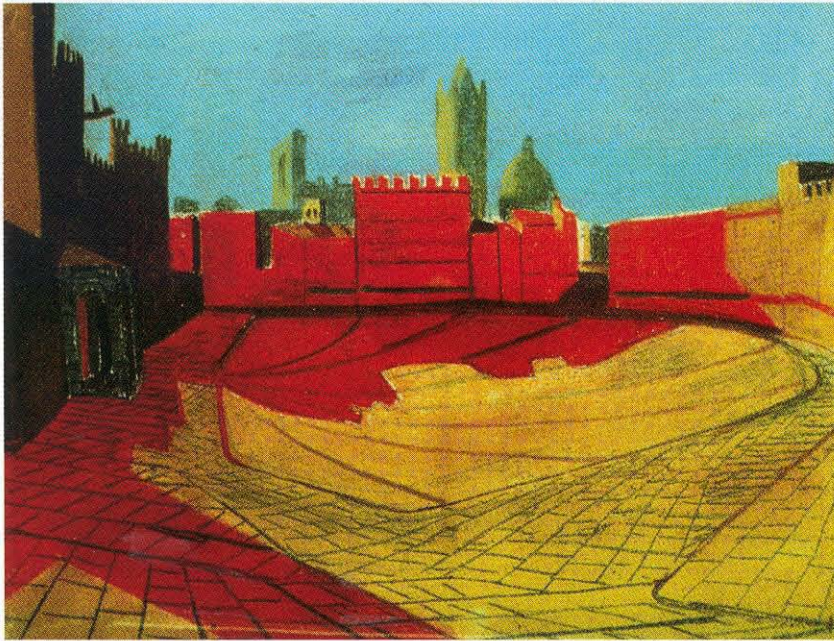
The "high style" architecture in which Kahn was trained by Cret was called "modern classic" or "stripped modern" in its time, and Cret, more than anybody else, created it. His Folger Library and Federal Reserve buildings in Washington, D.C., major commissions in Cret's office during the time Kahn worked for him in 1929–30, are good examples. They're much like the vernacular architecture that Kahn had sketched in Europe, in the sense that they're heavy, massive, and symmetrical. What you feel is the mass and the void, and glass plays very little part in the design. It's a traditional classicism simplified under the pressure of modernism, but still retaining a monumental symmetry and employing permanent materials, beautifully assembled. No sooner was Kahn trained in this approach, however, than Le Corbusier's Villa Savoye (1929–31) burst upon the architectural profession. Suddenly one could no longer look at buildings that were symmetrical, massive, heavy; one could no longer use the classical order in which Kahn had been trained, because now architecture had to be thin, taut, light, asymmetrical, stretched out to pure idea.

Other events also contributed to the demise of the stripped classic style. Not only did we build our best post offices and other buildings in the thirties in this style, but so did the Fascists and the Nazis. Later modernist critics, forgetting that we also had employed this style during the New Deal, used its association with totalitarianism as a club to beat classicism with. You couldn't separate it from its cultural meaning.

So Kahn did his best to do this new light architecture with thin columns and weightless walls of glass. He wasn't bad at it, but he wasn't exceptionally good at it either. And he would not have become the Kahn we know had he continued to do it. He just didn't feel it. When he came to Yale in 1947, he still had no major buildings. He was a man who clearly had lost his order. He was constantly talking about order, in particular about the order of crystals, seeming like so many other people at that time in the arts and art history to lose confidence in the arts and turn to science.

Then in 1950 Kahn went back to Italy, as a fellow at the American Academy in Rome. The very first thing he did was to go to a forum in Rome and do a pastel of it. (You weren't "allowed" to do watercolors anymore, and pastels were the closest he could get to them.) Now, it's interesting what forum he went to. He didn't go to the Forum Romanum; he didn't go to Trajan's Forum; he went to the Foro Italico, Mussolini's forum, the style that he'd been trained to see. His drawing of it, with its open arcades and ominous shadows, is reminiscent of those wonderful haunted visions of Italian urbanism painted by de Chirico during World War I. The Fascist architects themselves were, of course, very good at creating these effects to drive out modernism and use the ancient vision of haunted Italy to hold the imagination of the Italian people.

Kahn traveled to other Italian towns and drew their wonderful urban spaces—like the Piazza del Campo in Siena. In Kahn's pastel of it, he makes it curiously timeless by taking out all the



**Kahn's 1951 drawing of the Piazza del Campo in Siena (above left) eliminated everything that would indicate scale or use, a style characteristic of his later architecture, particularly in India and Bangladesh. The Egyptian pyramids also had a profound influence on Kahn. The massive structures dissolve into light in his pastel of 1951 (above right).**

elements—windows, doors, people—that tell you scale or time or use. Everything is dissolved in one great bath of red shadow, which then floods down over the Campo. This is exactly what he'll later come to build—an architecture where all time and scale elements are eliminated.

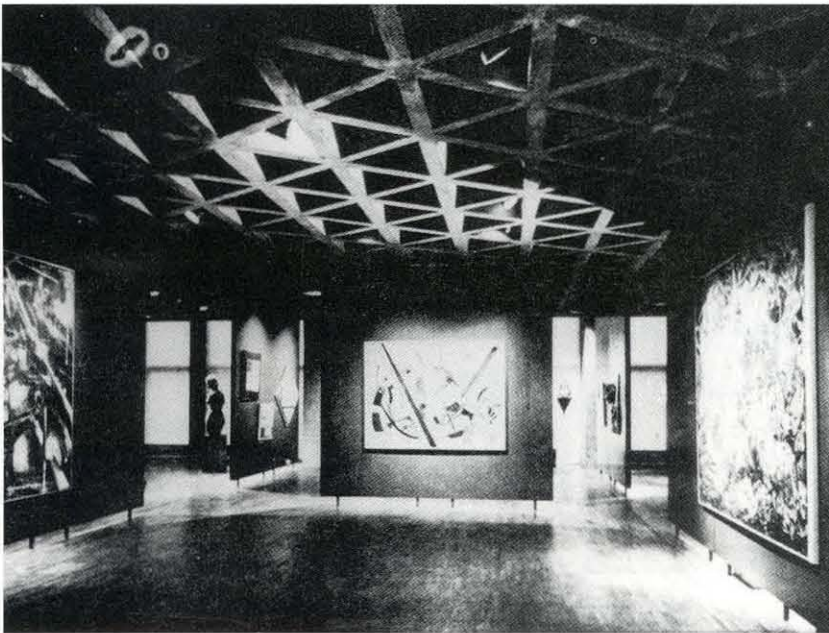
Kahn also traveled to Greece that year, and drew in pastel the great temple of Apollo at Corinth, with its thick columns and its sense of structural power. But the white light of Greece was not what he wanted, and so he made the temple and background orange. He was looking for a hotter, heavier light, and he found it in Egypt. His great pastels of the Temple of Khons at Karnak show the swollen, compressed columns and the heavy vegetable color he wanted.

It's interesting that this trip to Egypt seemed to unlock Kahn's Jewishness, even though he had previously not had much of an interest its practice. The swollen columns of Karnak, which became for Kahn vessels of light, reappeared in Kahn's plan for the Mikveh Israel synagogue in Philadelphia. This plan, never built, also had roots in cabalistic diagrams of the order of the universe. Kahn loved pictures like an architect, and I think his Jewishness, his mysticism, would come out when he found a shape he liked. His proposal for the Mikveh Israel project would have been, I think, the most important monument of synagogue architecture in the modern day.

In Egypt Kahn came finally to the pyramids and did pastels of them. In 1951 he wrote a poem calling Giza "The Sanctuary of Art, of Silence and Light." Light is perhaps the most important word on the first page of Genesis, and

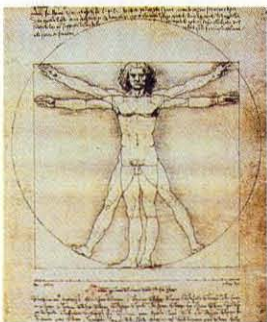
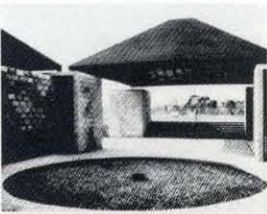
silence in much of Jewish and Christian medieval literature has to do with the fundamental presence of God: the great silence of Jehovah is his power. In Kahn's pastels he sees the pyramids as pure light—enormous masses that dissolve, dematerialize into light. The pyramids, which were covered with blinding white limestone, served to transport the pharaoh to the sun—not with inscriptions or decorations but by pure magic. They became, massive as they are, the embodiment of pure light. As Kahn's pyramids dissolve in light, the viewer's mind does not supply the other sides; you think it might have three sides or even only one. But then, curiously enough, they always dissolve into tetrahedrons, tetrahedrons that are vehicles of light.

While Kahn was doing these pastels at Giza, he got word that George Howe, who by then was Yale's dean of architecture, had managed to secure him the commission for the Yale Art Gallery. It would be the first important building constructed at Yale since the war, and Kahn's first important commission. And what he built was tetrahedrons—a great ceiling slab of braced beams, creating a kind of crystalline order in the tetrahedrons that carry the lighting system. (Another influence on this building came from Kahn's partner, Ann Tyng, who was an enthusiastic admirer of Buckminster Fuller and his geodesic domes, also constructed out of tetrahedral shapes. Fuller came to Yale around that time, and talked and talked. He would utterly destroy the brains of students; if they were impressionable enough, they couldn't believe that anything else in the world was worth doing



**Left: Tetrahedrons form the great ceiling slab of Kahn's Yale University Art Gallery (1951-53). Its string-courses are close to Italian palazzo design (above); the entrance is hidden at the side.**

**Below: In the bathhouse (1954-59) of the Trenton Jewish Community Center, Kahn employed not only his pyramids but the Neoplatonic order of the circle and the square, exemplified by Leonardo's well-known *Man of Perfect Proportions* (ca. 1500).**



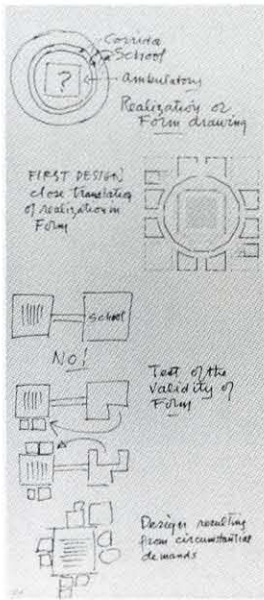
except building geodesic domes. Since the application of this one idea to the complex problems of architecture is minimal, a lot of them have had a good deal of trouble since.)

Of all the buildings built at Yale since then, it still seems to me that we have nothing to equal Kahn's art gallery. But he himself was never happy with it. Before Kahn was granted the commission, Howe and the forces at Yale had already decided that it would be a rectangular building, because it made a lot of sense on that site. Kahn then inserted into it a fundamentally triangular element, and he didn't like the disparity. The building wanted to take on a triangular shape as a whole, which, of course, it couldn't have done on its site, so he felt that it was compromised. But he was wise in the things he did *not* do. For example, he didn't try to design an entrance, because he couldn't design one not suggested by the structure. He kept the entrance back and at the same height as the base of the old building next door, so you sort of slide into the building at the side. Using the string-courses to express where the slabs were is very close to Italian palazzo design, and this enabled Kahn to pick up the movement down the street that the older building had, and then give it some velocity coming to the corner. But what Kahn really loved was inside the building—his pyramids. The staircase is especially wonderful; you look up the staircase and the black shadow of a pyramid floats there overhead, weightless, pure shadow, pure light—silence and light.

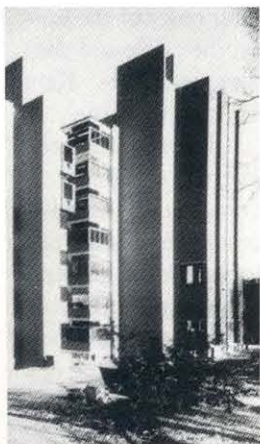
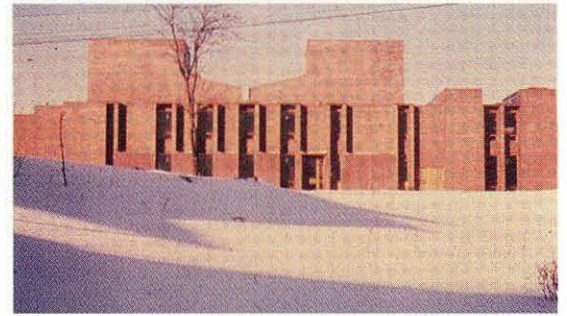
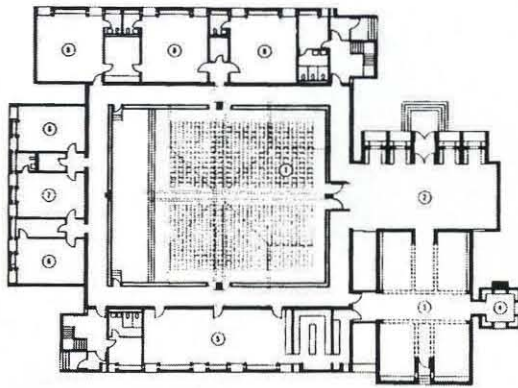
Kahn built actual pyramids in the bathhouse he designed for the Jewish Community Center in

Trenton. Here he also came to other basic shapes that have pervaded Western architectural aesthetics from the time of the Roman architect Vitruvius and earlier: the square and the circle. In the Trenton bathhouse he has five squares, four of them topped by pyramids and the fifth containing a circle. Leonardo's well-known image of the *Man of Perfect Proportions* (ca. 1500) is only one of hundreds of such drawings derived from the passage in Vitruvius where he says, more or less, that it's wonderful that the human body is proportioned so that it can fit into the perfect shapes of the square and the circle. This idea, probably Pythagorean, obsessed the Middle Ages and was taken up by Neoplatonism during the Renaissance. It suggested the basic image upon which Gothic and Renaissance architecture alike are based. Implicit in it is the idea that there exists a fundamental order that you can find only in drawing; that is, in the domain of conception; if gross matter intervenes, you get further away from the idea of an underlying order of the universe as a whole. The forms, the circle and the square, thus drawn are taut as piano wire. Kahn's embrace of this idea connects him with the richest part of the classical tradition, its theoretical center, from which are derived the great architectural images of the order of the world—for example, the new France and the cosmic order as embodied in the great French classic gardens of the 17th century. This is a central theme of history that Kahn, once taught by Cret and other French Beaux-Arts architects, was now able in a sense to reclaim.

Kahn's new order, based on the circle and the



**From the initial “form and design” drawing (above left) of the First Unitarian Church and School (1959–69) in Rochester, New York, the final plan (center) “deformed” and evolved, but remained based on the circle and the square and served and serving spaces. The building’s windows are set back (above right), the glass suppressed. Below: The towers of the Richards Medical Research Building (1957–65), reminiscent of medieval Italian masonry towers, contain stairs and ducts and are not actually structural.**



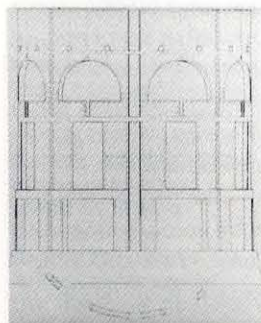
square, was also based on something else that came out of classicism and continued in the Beaux-Arts tradition—the idea of served and serving spaces, big spaces articulated and separated but connected to each other by small spaces such as corridors, bathrooms, and so on. You can see this idea in the plans of the French Gothic cathedrals that Kahn loved: square spaces capped by circular domes and articulated by groups of pillars making corridors that serve the larger spaces. Out of this influence came Kahn’s great plan for the Alfred Newton Richards Medical Research Building at the University of Pennsylvania.

Although it didn’t come, as modern pragmatism would have it, from pure invention, the plan was analyzed according to structure and function to produce a new unity that had never been there before. There’s a central building that is basically service. The laboratories are square and are served by stairs and ducts to remove noxious air. Kahn carefully detailed the ducts and the stairs so that they don’t look structural, or load-bearing, on the exterior. But while Kahn was designing the laboratory building, another deep memory intruded—his watercolor from the late twenties of the solid masonry towers of a medieval Italian town—and that’s the way he finally designed the Richards Building towers. Whether they had ducts or stairways in them, they all looked like solid structural members. But he shows that they’re nonstructural by stepping them in or by cutting a triangle at the bottom. There are some problems with the buildings: you *do* get confused by the towers. The major vertical structure is

carried by pre-cast concrete columns that are actually smaller in scale and seem *less* structural than the towers. The pre-cast building is all laid up dry—no mortar. Kahn said he began to feel the crane as an extension of his arm and sense each one of these big heavy units as a brick, an element in the structure. In a way it’s like Greek temples, which were also laid up dry without mortar; you put the parts together piece by piece, as Kahn had learned in the Beaux-Arts tradition. He was beginning to link back to the structural traditions that modernism had intended to cast aside.

It’s clear from this moment in the early sixties that these memories were beginning to flood into his system, and he was beginning to use them. All of this comes together in the First Unitarian Church in Rochester, New York, which is where he proposed his theory of form and design. The “form” is the first formal idea that comes to architects’ minds when they’re faced with a new project. Here the project consisted of a church with a big meeting hall and also a school, which needed to be close to the hall to use it occasionally. So he draws something that looks like the circle in the square. And then he articulates it a little bit more in the next drawing, where he writes “FIRST DESIGN, close translation of realization in form.” Here he bombards this perfect Neoplatonic idea with the peculiarities of the program, the demands of the structure and function of the program. When you do that, the form will deform because the rooms want to be different shapes. But if it doesn’t deform too much, then you build it. And since the form

**The scholars' studies at the Salk Institute for Biological Studies (1959-65) in La Jolla, California, are angled toward the sea (right). Looking toward the sea (below), only the concrete slabs are visible, and the thin stream of water running through the plaza. Kahn's design for a community center at Salk (bottom), which has never been built, shows his first breakthrough to the idea of "wrapping ruins around buildings," a style that was to culminate in his great buildings on the Indian subcontinent (next page).**



here was right, this is what he built. The client had originally had the wrong form idea, a sort of binuclear plan, but that didn't work because the school functions needed to be close to the meeting hall. It's wonderful to watch that beautiful plan evolve: the main entry hall gets larger; so does the library; the classrooms grow smaller, the kitchen longer. From that point on we can trace everything about the building through its reception of light. We can feel that Kahn has expressed function and structure like an absolute modernist, and that the plan is also wholly abstract—that he's achieved, in a sense, the modern ideal.

The windows are set back, to protect them from glare, he said, so we hardly see the glass in the exterior wall, which becomes very plastic and solid. Up above, four great monitors rise to light the central space, whose bony structure is one of Kahn's greatest. You can really feel the silence he talked about, thrumming as with the presence of divinity, when the cinder block is washed silver by the light that floods down upon it, while the heavy, heavy slab is lifted overhead. This space joins that of the Yale Art Gallery as one of Kahn's early essays in the sublime, into whose vast silences all his late work was to move.

Then he built Salk—the Salk Institute for Biological Studies in La Jolla. At Salk you don't see *any* glass. There's glass set back at the entrances into the laboratories, but the general feeling is of a bony structure of concrete slabs, panels of wood, and no glass whatsoever. It was in Salk that Kahn first began to use the images that he rediscovered in the ruins of Rome in 1950

under the influence of Frank E. Brown, the great Romanist of Yale and the American Academy in Rome. Brown led us all to Rome and made us see that it wasn't just an architecture of engineers (I don't mean that the way it might sound to a Caltech audience), but also an architecture of poetry, of light and water. With Brown and alone, Kahn had visited such ancient sites as Hadrian's Villa, Trajan's Market, Ostia, and the Flavian Palace on the Palatine Hill.

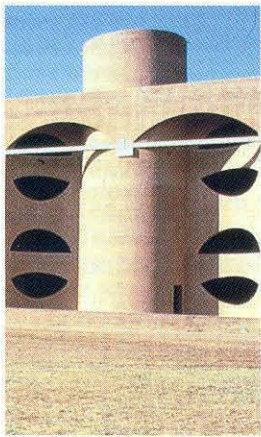
In his first schemes for the scholars' studies adjoining Salk's laboratories, Kahn drew a plan consisting of a square with a fanning pattern opening outward—a pattern he had seen in the garden court of the Domus Augustana of the Flavian Palace. The fanning pattern coming out of each square bay gave the sense of forces running through matter, which had furnished baroque architecture with its life and which certainly affected Kahn. This was the first time he overtly tried to use a Roman form.

Eventually, though, Kahn discarded this plan because he wanted the scholars' studies inflected toward the sea. But the sense of forces running through matter remained. Down through the center of the empty courtyard runs a thin stream of water; instead of a normal plaza, it becomes a corridor. It's directional. You can feel the space being drawn from the continent to the sea. Many people describe the Salk Institute in terms of the Acropolis, because you can't see any glass and because the concrete is so beautifully made it looks like marble. And sometimes in that glowing space, looking toward the sea, you might happen to see Icarus gliding across the scene—





**Above: Housing for officials at Sher-e-Bangla Nagar, Capital of Bangladesh (1962–83), in Dhaka, exhibits no trace of scale or function; glass is suppressed behind the voids cut in the cylindrical “ruins.” Below: At the Indian Institute of Management (1962–74) in Ahmedabad, Kahn devised his new “brick order,” a conscious misreading of a Roman ruin, with void, lintel, and arch.**



the coast there is one of the most popular hang-gliding spots in southern California.

Kahn also designed a community center for the Salk Institute, and I hope someday Dr. Salk will be able to build that wonderful complex of buildings. It represents an enormous breakthrough in Kahn’s design in that it wholly resembles Roman ruins. The rooms would have walls almost entirely of glass, but protected from glare by thin concrete walls that are perforated but have no glass in them. Square rooms are surrounded by cylindrical walls and circular rooms by walls at right angles. He called this “wrapping ruins around buildings” to provide a vision of a building without glass. He was encouraged in this by a paper written about that time on the forum baths at Ostia. The author, an engineer and a pupil of Brown’s, showed that the orientation of these wonderful ruins, some of them rectangular, some curvilinear, was such (and the heat so efficient) that they probably were never intended to have glass, even though the Romans had plenty of glass. Kahn figured if the Romans could do it without glass, so could he. It was Kahn’s beautiful drawing of this proposed building, which incorporated so many of the things he loved—the pure void in the ruin, the curved, taut, thin walls, the lintel between two levels of opening—that more than anything made me feel when I saw it in 1962 that Kahn was an architect of frighteningly awesome potential. It expressed *romanitas*—the gravity and authority of Rome. Everybody laughed at this design and called him “Loony Lou.”

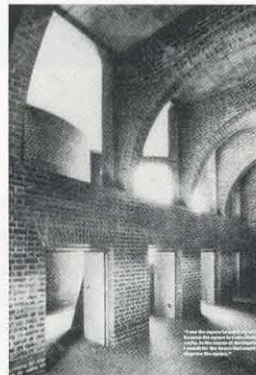
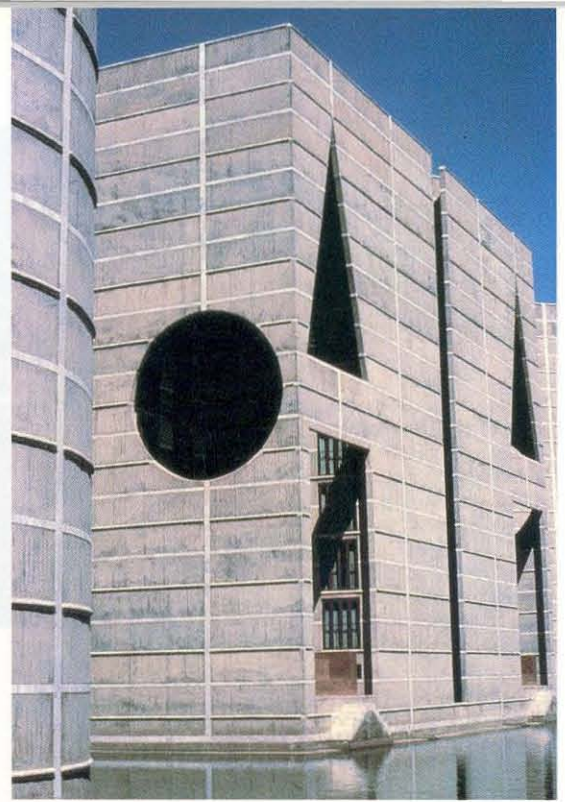
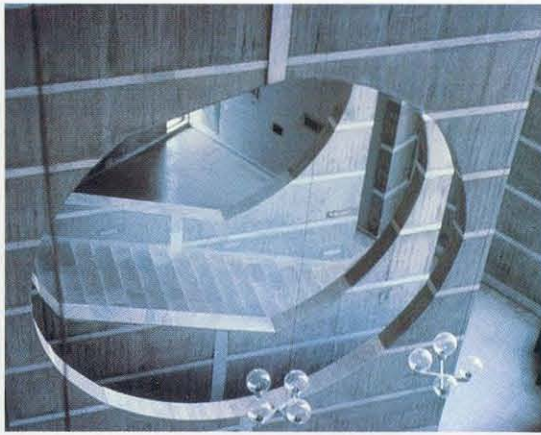
But Kahn had the last laugh; he took his

glassless Roman ruins to the Indian subcontinent, and there his great primitive shapes began to appear. His brick Indian Institute of Management in Ahmedabad seems to be a conscious misreading of a Roman ruin. Romans, in Ostia for example, often built walls of two courses of brick, filled with concrete. In order to keep the fresh pour from breaking the wooden lintels over openings, they would build a relieving arch right through the two thicknesses of brick wall. So you get a void, a lintel, and an arch. In what Kahn called his “brick order” he revised this and used the lintel to hold the arch together. He splits the impost block in the middle to make you feel the tautness, the tension of the sides—as if they’re trying to hold the brick back. There’s so much more life in it than if it were a solid block.

Kahn is an idealist and, indeed, a Romantic Classic architect; his models are the great architects of the 18th century—and in particular the great draftsman and etcher Piranesi, whose prints of the ruins of classical Rome inspired the Romantic Classic architects. Like them Kahn is trying to revive architecture by going back and starting with the ruins of Rome. And also like them, Kahn wants fundamentally sublime effects. The 18th-century concept of the sublime is different from that of the beautiful in that it deals with the awesome and the unfinished, the primitive and the frightening, embodied in Piranesi’s fantastical prints. And this is the quality that Kahn, too, wants.

The wonderful space of the waiting room of the outpatient clinic at Sher-e-Bangla Nagar, the capitol center in Dhaka, Bangladesh, is almost an

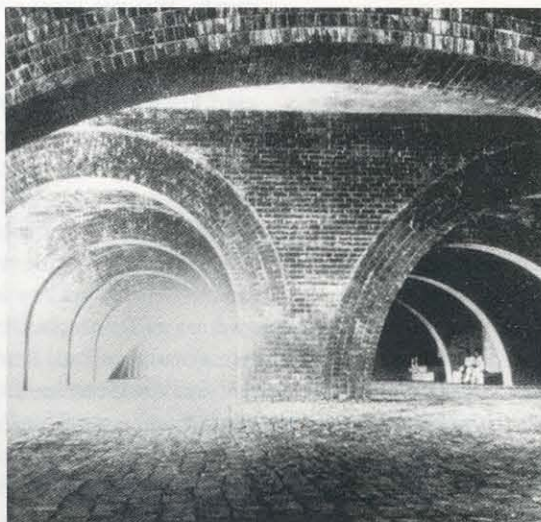
The cylindrical and block shapes of the National Assembly Building at Sher-e-Bangla Nagar, Dhaka, (far right) act as containers of light punched through with circles and triangles. Great circular holes also light the north entrance staircase (right). Below: Kahn took the cross-vaulting in the Indian Institute of Management (right) from Trajan's Market in Rome (left)



exact transcription of the Thermopolium, the famous little hot-drink stand in Ostia, where you have the light coming in from both sides. Trajan's Market is a splendid example of Roman brick and concrete structure, with a concrete barrel vault that gets light into it from penetrating cross-vaults, which make the whole thing seem to be lifted. Kahn recreated this in the Indian Institute of Management but reduced it to a simplified, clarified structure that he could build rationally. Instead of being poured concrete and cross-vaults, it uses brick arches carrying concrete slabs with steel in them. The great National Assembly building at Sher-e-Bangla Nagar has antecedents in the Temple of Jupiter Optimus Maximus at Ostia—and the shapes in the plan, some cylindrical, others square, can be found in Piranesi's fantastical reconstruction of the Roman Campus Martius that hung behind Kahn's office desk. Kahn used these shapes as he had intended to do at Mikveh Israel, as containers of light, their thin walls cut through with circles and tall pyramids, while big circles light the great council chamber.



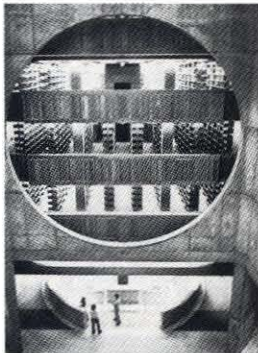
Above: Light from both sides illuminates the Thermopolium in Ostia (left, 2nd century A.D.) as well as Kahn's waiting room of the outpatient clinic at Sher-e-Bangla Nagar. Right: The round brick vaults under the National Assembly building at Sher-e-Bangla Nagar look self-consciously Roman, and very Piranesian.



Even though he used all these wonderful shapes from classical models, Kahn avoided tipping his hand by quoting obvious classical details like the pediment, the tondo, and so on (so now he can be deified by the modernists as inventing it all out of his head). Other architects involved in a classical revival are doing that sort of thing now but Kahn never would. He wanted to remain enigmatic, ambiguous, timeless. Any detail would give it scale.

When Kahn comes back to America in his last

The arches along one side of the Kimbell Art Museum (1966–72) in Fort Worth, Texas (right), match a sequence from Hadrian's Villa in Tivoli. Glass is again subordinated. Below: In the central Hall of the Phillips Exeter Academy library (1965–72) in New Hampshire, a circle in the concrete square illuminates the stacks.



years and builds the great and much-admired Kimbell Art Museum in Fort Worth, he stays very close to the ruins and subordinates the glass. There is a wall of glass, but it's masked by trees and normally you don't see it. Inside you have Roman round-headed arches that have been deformed to distribute the indirect light better. The profile of arches along one side match very closely a sequence from Hadrian's Villa. And in his library at Phillips Exeter Academy in New Hampshire, Kahn won't even let it become a building; he wants it to remain a ruin. The walls don't connect at the corner or the top. They remain like a hollow shell into which every now and then, almost grudgingly, he will ram some glass. It's basically that hollow frame that he wants, and then inside this abstract square he puts a circle: the pure circle in the square in heavy concrete.

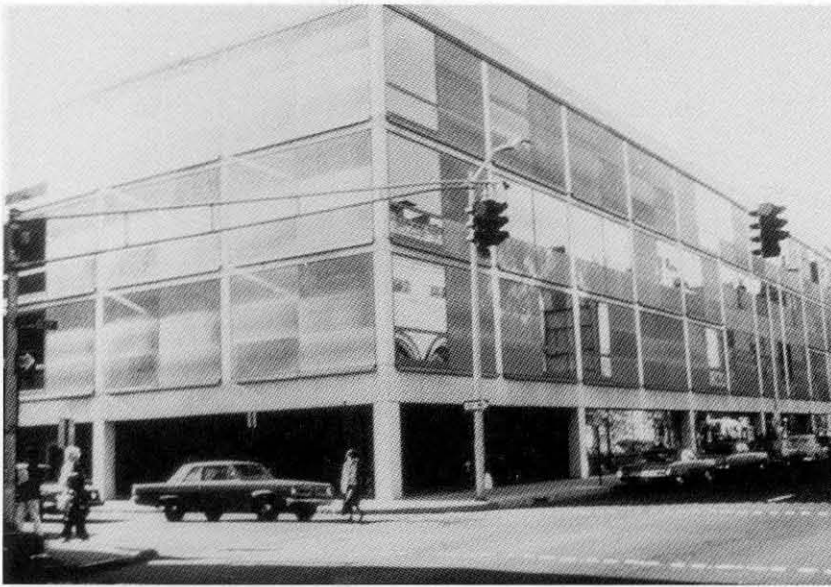
Because he stayed so close to the Romantic Classic ruins in these buildings, Kahn's last building, not completed at the time of his death, seems a miracle. With the Yale University Center for British Art he leaped forward 100 years—from the Romantic Classicism of the mid-18th century to the materialist realism of the mid-19th century. Henri Labrouste, in his Bibliothèque Sainte-Geneviève in Paris, solved the problem of building a Greek temple, which for the necessities of modern life had to be closed off from the street, by putting the columns on a base with a strong stringcourse. Nonbearing panels, some solid and some glass, fill in between the columns.

Kahn uses basically the same system in the

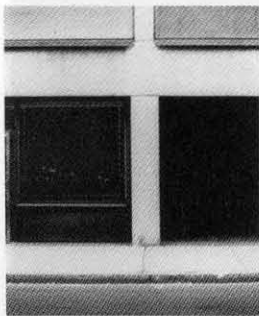
Yale Center for British Art. A big heavy girder runs above ground level with shops underneath. Above it he builds a concrete structure holding solid panels of stainless steel and panels of glass. It's close to what Mies van der Rohe did (for example in his buildings at the Illinois Institute of Technology), and Mies got it from a similar source. But visually Kahn's building seems a more solid structure than Mies's. You feel that wonderful quality of its being "built"; it expresses weight and compression. The lintels weigh heavily on the piers; the joint is point-loaded, static, Greek, silent. And the concrete is as beautiful as marble.

Inside, such sublime features as the great cylindrical stair tower that doesn't reach quite to the ceiling, lighted from above, create the effect of silence and light that Kahn loved so much. But the most unlikely thing for him is the use of glass, which, as we have seen, he had always avoided or tried to subordinate. And he's used glass with more light and incandescent vitality than I have ever seen in it before. Next to the surface of those matte panels, the glass simply explodes with light and reflection.

And what it's reflecting are all the buildings across the street—the wonderful old 1920s Beaux-Arts art gallery with its arches, and Kahn's own art gallery from the early 1950s with its stringcourses. Paul Rudolph's much maligned Art and Architecture Building, a villain of late modernism, stands at the end of Chapel Street, embracing and completing the movement of the buildings down the street with a wonderful open gesture. Kahn's Center for British Art seems to

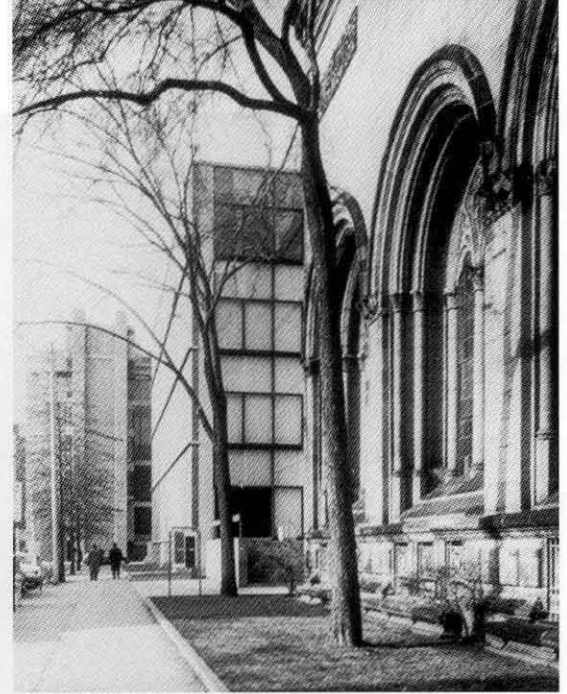


**The Yale Center for British Art (1969–74), Kahn's last building (above), reflects the flow of buildings across the street—the old art gallery, Kahn's own earlier building, and Rudolph's Art and Architecture Building at the end. Below: The heavy lintel point-loaded on the pier and the cylindrical stair tower give the effect of weight and silence that Kahn loved.**



act in a community relationship with the pre-existing buildings in a way that no Kahn building had ever done before. It's possible that here, in his last building, he's beginning to discover a sense of contextual responsibility—the conversation between the generations that makes civilizations, that makes towns. It's hard to say, because we don't know what he would have done afterward. But we do know that across the way, in his first great building, we can see the record of his beginnings, where he wrestled with Pharaoh and with Jehovah—or where, like Jacob, he wrestled with the angel all night through until the first great architects of western civilization reached out to him and set him on his way. □

*This Vincent Scully is not, as Los Angeles Dodger fans might have presumed, the radio voice of baseball. Rather, he's widely considered to have transformed the field of architectural history and is very likely the "most influential historian of architecture ever," according to Vice Provost and Professor of Physics and Applied Physics (and Dodger fan) David Goodstein in his introduction to Scully's lecture at Caltech. When he retired in 1991 from 44 years of teaching at Yale, the final lecture of his legendary course in the history of architecture made the front page of the New York Times. Among his students have been many of the country's leading architects and architectural critics*



*and historians. Scully is now the Sterling Professor of History of Art, Emeritus, and the William Clyde DeVane Professor of Humanities, Emeritus, at Yale, but teaches for half the year at the University of Miami. And despite the national notice accorded his retirement, he continues to teach half the year at Yale also. His most recent book, of a total of 15, Architecture: The Natural and the Manmade, appeared last year.*

*Scully, born and raised in New Haven, Connecticut, received both his BA and PhD from the hometown university, Yale. He met Kahn when both joined the Yale faculty in 1947, Scully as a young instructor in art history and Kahn as a visitor in the school of architecture. Although he states in his lecture that during Kahn's 10 years at Yale, "we had no idea whatever that he would ever be as important as he came to be," Scully was his ardent admirer and supporter from the beginning. It was partially due to Scully's support, in addition to that of Yale's architecture dean, George Howe, that Kahn received his first major commission for the Yale University Art Gallery, where "the first great architects of western civilization reached out to him and set him on his way" to returning classical traditions to modern architecture.*

*The first comprehensive retrospective of Kahn's work has been organized by the Museum of Contemporary Art, Los Angeles. After sojourns in Philadelphia, Paris, New York, and Japan, "Louis I. Kahn: In the Realm of Architecture" opened at MOCA on February 28. Scully is credited with being the "guiding spirit" and "magnificent inspiration" for the exhibit. A version of this talk has previously appeared in the MoMA Members Quarterly, published by the Museum of Modern Art in summer 1992.*