

Louis Khan

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KAHN

A discussion recorded in Mr. Kahn's Philadelphia office in February 1961.

AMERICAN CONSULATE; LUANDA, PORTUGUESE ANGOLA

K: One of the things which impressed me very much during my stay in Luanda was the marked glare in the atmosphere . . . when you were on the interior of any building, looking at a window was unbearable because of the glare. The dark walls framing the brilliant light outside made you very uncomfortable. The tendency was to look away from the window. Another thing that impressed me was the importance of breeze . . . the importance of breeze in carrying away the warm air that accumulated around the building. And I thought wouldn't it be good if one could express . . . find an architectural expression for the problems of glare without adding devices to a window . . . but rather by developing a warm architecture . . . which somehow tells the story of the problems of glare. Some of the buildings used piece work, grillework . . . wood or masonry grillework in front of windows. This was unsatisfactory because of what it did . . . because the wall itself was dark against the light; it gave you just a multiple pattern of glare . . . little pin points . . . little diamond-points of glare against the dark ribs of the grillework. And that tended to be unsatisfactory. I noticed that buildings which were very close to windows — were very pleasant to look at from the windows. I also noticed that when people worked in the sun — and many of them did — the native population people — when they worked, they usually faced the wall and not the open country or the open street. Indoors, they would turn their chair toward the wall and do whatever they were doing by getting the light indirectly from the wall to their work. That gave

me the thought of a wall a small distance in front of every window as a kind of indigenous architectural sense. Now, placing a wall in front of a window would cut the view and that is not pleasant. One doesn't feel like having the view cut away, so I thought of placing openings in the wall; the wall then becomes part of the window. When that wall got the light — even the direct sunlight — it would modify the glare. So therefore I thought of the beauty of ruins . . . the absence of frames . . . of things which nothing lives behind . . . and so I thought of wrapping ruins around buildings; you might say encasing a building in a ruin so that you look through the wall which had its apertures by accident. But, in this case you'd want to formalize these openings and I felt this would be an answer to the glare problem. I wanted to incorporate this into the architecture instead of it being a device placed next to a window to correct the window desires . . . I don't want to say window desires . . . window desires is not the way to put it. I should say: desire for light, but still an active fighting of the glare. Another thing that impressed me: I saw some buildings that were conscious of the heat generated by roofs. They had large areas in the roof . . . large separations between the ceiling and the roof . . . small openings which were visible from the outside in which the breeze could come in to ventilate the areas in the ceiling and roof planes. And I thought how wonderful it would be if one could separate the sun problems from the rain problems. And it came to mind to have a sunroof purely for the sun and another roof purely for the rain. I placed them six feet away from each other so that one could maintain the rain roof . . . which was the important roof to maintain because

the sun roof could take care of itself . . . it being a loose roof, one in which the rain can go through. It can never become a problem, you see, except for minor repairs. The sun roof naturally wanted to be made as light as possible . . . because it should be in a way a gossamer . . . something which is just there as an interceptor . . . and I thought of the insulation . . . that the actual sun roof might become the insulation so I would eliminate insulation on the rain roof entirely . . . have no air space except for what you get from the separation between the two roofs, the rain roof and the sun roof. Now there were other thoughts which came to my mind, outside of plan, outside of any aesthetic notions I may have had to begin with about how I build the building. I felt the building should have a restful, a reposeful character, and not be particularly aggravated in contour. I wanted very much — as has always been my desire — to demonstrate to the man on the street a way of life . . . so when he sees a building as he passes it he feels as though . . . “Yes, this building represents or presents a civic story to me of my relation to this building. I expect a dignified building for a dignified activity of man.” But those were feelings about a sense of appropriateness which may have come from learning and from other things but are not really deeply fundamental. They are aesthetic considerations and aesthetics are, of course, the laws of art. You learn them by seeing a lot and by being told a lot and by sensing a lot, but the other things come out of the very characteristics of the air, and of light . . . very simple everlasting presences that should constantly talk to you in architecture. You cannot forget that light of a certain character has to do with that which distinguishes the architecture of one region from that of another. Even if you took the demands of a company for their identification in one country or another, you couldn't build a prototype as a kind of business principle, rather than as a building principle. You would have to give not so much a building but a vision, an image. But the image must change from one region to another because the requirements of an area are different in one place or another. The integrity of a building could be one stamp of identity with a company, the excellence of performance could be one . . . certainly their sign could be . . . but when you take the very same building, a prototype, an

actual duplication, and place it anywhere regardless of the area . . . this would be a ridiculous building. I also realized that natural ventilation was an important thing to consider in these buildings because of the state of mechanical ability; the repair of air conditioning systems or plumbing systems was something that would take a long time to develop in this country . . . you can't just import devices without regard to their future performance. But even if you were to have good mechanical maintenance for air conditioning and the other modern devices which control your environment, the protection against the sun and glare and the channeling of wind is still important so as not to impose too much load on the air conditioning. So a non-air conditioned building can look just the same really as an air conditioned building except that the windows would change. In Luanda you can just have slats — you don't need any glass at all. You just allow the breeze to come through and you control it with your louvers. But, when you have an air conditioned building, you've got to have glazing — you've got to contain it . . . you don't want to condition the whole atmosphere. So I felt I was not doing the wrong thing by making the building look like a non-air conditioned building except for the glazing.

Ed: Is it or isn't it air conditioned?

K: This is an air conditioned building. Only, you must figure that it could at times be one in which the air conditioning would not be functioning. There will be some louvers and operating windows in there anyhow so you can get some ventilation in case the thing goes bad.

The glare walls are designed to present a non-bearing wall. You feel the openings are done with the idea of giving you a sympathetic place in which to view your . . . whatever you want to see. I feel, off hand, that they're now a little too large, that they can be made smaller. It's only that I still haven't developed a kind of sense in lieu of experience to tell me whether they're large or small. I haven't developed this because they must be tried . . . probably anyone could have greater caution . . . I think they can actually be smaller than those indicated. I feel the openings should be smaller because you can have a side view anyway . . . you always have a side view. You can look out and see everything you want. But here you have a controlled view and it can actually be smaller

than I have indicated. I feel this is a good approach to architecture . . . a true approach to architecture . . . in that you're constantly aware of the natural forces and trying to restate and to reestablish a way of life in architecture. So a building really aspires to something, and it answers very much a way of life. But, this aspiration has to be constantly renewed and reborn and what is presented by the art of building or the art of painting or sculpture is in light of new techniques. The new techniques will help you . . . it brings before you new measurable means of doing that which your aspiration calls for and that's how you view technique: as a measurable means of expressing closer and closer the desire and the existence will of aspirations.

From the main thoroughfares I developed an entrance court which is really a parking space for the chancellery and the house . . . the residence. I used trees to divide areas of parking and to shade the parking, too . . . right in the street itself. This much of the street would be paved with limestone . . . a material prevalent in Angola. This answers many of the problems which are unsolved in some of these consular buildings . . . I'm not saying it very well . . . let me just say it in different words . . . I'm conscious of this thing for a moment. The government board of architectural review liked the scheme very much because they saw a sense of privacy in the parking . . . in that the paving is different from the usual run of paving . . . which seemed like an ordinary consideration, but they didn't think it was ordinary because it gave a kind of gate . . . a court entrance to these two buildings. The chancellery is surrounded by a play of pool areas which empty one into the other; the upper pool empties into this lower pool and the lower pool empties into a pool at a still lower level . . . and that keeps the water running into this pool . . . which is very essential to water use in these areas. And practically the entire landscaping *ideal* on the chancellery side is the pool and the various terraces sitting in the environment, a rather stark environment. On the other side you get an environment of green . . . though it's not indicated on the plot plan, this will be a green area, a treed area . . . whereas this will be (the chancellery area) rather an untreed area with the court itself giving shade and direction to the parking and entrance. The residence is

treated in the same way as far as the recognition of glare and the recognition of the sun roof. The four courts on the interior of the residence give interior light and afford a positioning of the columns which hold the sun roof. This shows, of course, a lower story . . . and you notice that it has a continuous walkway under the building. I feel that in bringing the rain roof and the sun roof away from each other I was telling the man on the street his way of life. I was explaining the atmospheric conditions of wind, the conditions of light, the conditions of sun and glare to him. If I used a device — a clever kind of design device — it would only seem like a design to him — something pretty.

I didn't want anything pretty; I wanted to have a clear statement of a way of life. And those two devices I feel very proud of as being strong architectural statements from which other men can make infinitely better statements. These are really crude statements . . . they're actually done with almost the feeling that they should be primitively stated first rather than in high degree of taste. The purpose was to state it in a rather primitive, unknowing, unsophisticated way. And I think that in the arrangement of spaces required, the sense of entrance, and the sense of reception, the plan has again a sense of the appropriateness of such devices . . . or the space feeling that one should have considering the type of building it is. One should have a feeling of entrance and reception not by the way of sign but by its very character and this every architect who is conscious of spaces does one way or the other. And, I think this plan does indicate that. Notice also that the piers that hold the main girders for the sun roof are completely independent of the rain roof. The rain roof is never pierced. The sun roof rises quite independently out of the architecture, so that at no point do you pierce the rain roof. That accounts for these piers . . . these four sets of piers. The girders go across and the joists — concrete pre-stressed joists — hold the tiled — the clay-tiled leaves which form the sun tree on the sun roof which covers the entire building all together. You're completely conscious of this because when you enter the building . . . here, for instance . . . this is all open through there . . . the rain roof only follows this little portion here . . . is only this and there and this is all open, so . . . when you come into the building here you sense the entire

leaf-like structure above . . . they'd be open enough so that the light can come through.

Ed: Why is the opening in the pier greater in the lower story than in the upper?

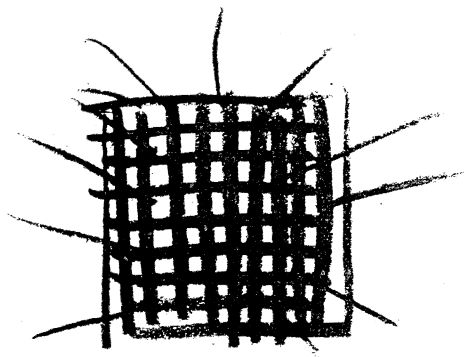
K: There's a lintel that allows me to have a smaller opening above . . . it can distribute the load that way. I wanted it open under there because I want to pass through everything and I pass through this beam in order to get a continuous promenade under the building. I then put the building off the ground . . . it is current practice in these areas to raise all important rooms above grade. Also it gives you a feeling of greater protection . . . in a way the chancellery building of this government function is, in a sense, a fort . . . it's a protective building . . . and the extra floor gives it a kind of extra sense of protection.

Ed: The physiological reaction to sitting in darkness and looking to light is a problem like the adjustment of the diaphragm of a camera . . . I was wondering why then this interval — the double window — will ease the adjustment the eye must make. You either know or are hoping that when you do finally — after looking through the void of shade — see the bright area, it will be toned down enough so that your iris can adjust instantaneously without having a painful physiological reaction.

K: Listen to what I think. I say it more this way: when you see this wall in front of you light framed in a window surrounded in darkness is what causes the glare. That's glare, a glare condition.

Ed: It provides a shade of grey between the black and the white.

K: Grilles or anything like that — which are prevalent in front of a window like that — give little pin points of light which are very glaring. You needn't see it, you can just draw it.



When these members get smaller and smaller, it's all right again . . . you don't feel it as much. Then you get a great modification of the glare.

Ed: Well this would presumably be easy enough to make a model of . . .

K: Yes, we have made a model of it . . . you can see the difference. You put a large bulb — a 500 watt bulb — in front of you and you can see plenty of glare right close to it. And as soon as you move that thing (the model of the light wall) in front of the bulb it's completely different. You saw the difference right away.

Ed: This shape begins to recall . . . almost an eye . . .

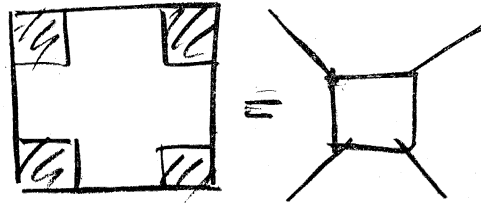
K: It does in a way yes. Of course, I use it as a device to get some grace into a box-like building. The requirements being so little — I mean the building is so small — the desire to breathe something into it was there too. You have this privilege, this device, you see. You can go overboard very, very easily — you can make something frivolous in a second. I don't know that's even good — I just feel it's good — somebody said it looks African, which was awful. That reminds me — Yamasaki, who said that he was doing a building in Iran says he likes the idea. I've used this device recently very, very often. These are beautiful windows. I think it's well to play not so much on the completeness of the design . . . after all . . . everybody's problem is different and this is only how I designed something. It's one of the reasons why I also think that the completeness of the drawings is not terribly important; I believe it is more important to just simply state something fragmentarily in order not to say: I like the design, I don't like the design. This way it becomes easily a part of the architectural mind without the minor likes and dislikes . . . one can judge it another way . . . and then from this many people can do better. I think that . . . that design is a very personal thing. But I feel that these other things are not really personal . . . it's just simply a sense of architecture, you see, which you feel you want to install within the frame work of this, your work.

GOLDBERG HOUSE; RYDAL, PENNSYLVANIA

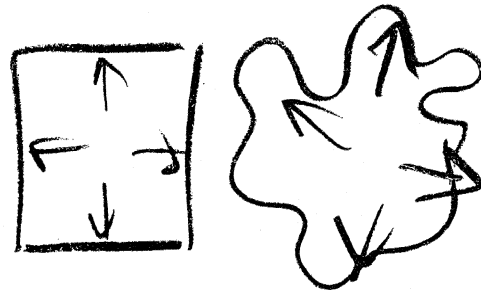
Ed: The obvious question is: why couldn't this wall be continued and then you frame from here to there? (That is, have solid corners.)

K: Because that really is the way it works and there is a desire to respect the fact that a

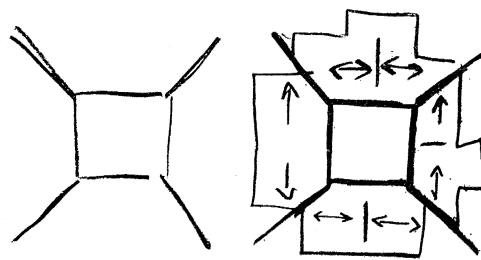
building can end up . . . that the ends of a building are different from a prescribed thing like this.



You start with this but sometimes the interior wants to move out and break the walls out.



And you hold it in because of the preconceived shape that you have chosen. And that discovery . . . that the diagonal can be something to which

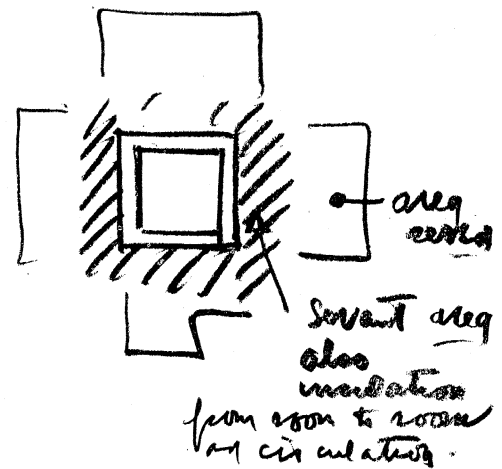


you can frame . . . that it can be a kind of circumstantial ending . . . which this is because if I had more money, I probably would have come up with a little bit more. It's purely circumstantial. I felt this was rather a discovery in the desires of interiors — interior spaces . . . a house is a building which is extremely sensitive to internal need. In this satisfaction there was an existence will of some kind . . . but there was an existence will for this house not to be disciplined within a geometric shape.

Ed: You've wound up with a much bigger periphery than, say, a square . . . you could obviously juggle these parts and wind up with a full

square . . . it can be done. But the point to me is this: that in this particular configuration you have a circulation ring to which each room relates — all except the living room — by way of the passage through the functions . . . as a sort of buffer zone . . . the major rooms then take their needed configurations independently of each other. If you had filled in the corners or made it a regular volume it would not have been, it seems to me, nearly as clear a relationship as when you shove these things out.

K: In an ordinary square you always have the problem of these ends which are hard to reach. You must penetrate this (the "functional" areas) to come to the spaces — the final spaces being what they will be. You penetrate this to come to this — and so this — these become servant areas and these areas served. The servant areas also serve as insulation . . . they insulate you from room to room.

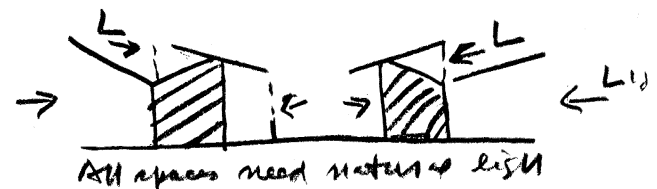


Ed: Also from room to circulation.

K: From room to room and from room to circulation.

Ed: Aren't the inner servant spaces always skylighted and the others lit from the outside?

K: Yes. I'll draw it for you.



Ed: The artist copying his own drawing out of the *Architect's Yearbook* for PERSPECTA.

K: What could be better? Do you want a tree?

Ed: How about the light now?

K: All spaces need natural light. I can write that in if you like.

Ed: For a house — or period?

K: I would say all spaces need natural light . . . all spaces worthy of being called a space need natural light. Artificial light is only a single little moment in light . . . and natural light is the full of the moon and it just makes a difference.

Ed: So doesn't this imply a tautology . . . in saying that you define a space as something which does have natural light.

K: Yes, I can't define a space really as a space unless I have natural light. And that because the moods which are created by the time of day and seasons of the year are constantly helping you in evoking that which a space can be if it has natural light and can't be if it doesn't. And artificial light — be it in a gallery, be it even in an auditorium — loses one a great deal. I would like to — sometime — build a theater which has natural light . . . which you later blot out when the show is on. But why must the rehearsal be in a dingy place? Is the rehearsal a play? No — the play is the play and the people see it, not the rehearsal. During the rehearsal the theater should be as pleasant as possible with a different kind of atmosphere. I'm not so sure that a theater should be always artificially lit unless you rehearse somewhere else. With the absence of the people you probably are producing something which is completely artificial, you see, in the sense that you make the same space but with natural light present. I think natural light should be in spaces that you may call spaces. And interestingly enough I think that the way a space is made is almost made with the consciousness of possibilities of light because when you have a column you see, you are saying a column is there because light is possible. A wall does not say it's possible . . . but when you have a column or a vault or an arch, you're saying that light is possible. So therefore the means of making a space already implies that light is coming in . . . and the very choice that you make of the element of structure should be also the choice of the character of light that you may want . . . and that I think is truly an architectural demand.

Ed: If it's so dark you can't see the room it can't be a space. Like the inside of a refrigerator with the light off.

K: Is not a space . . .

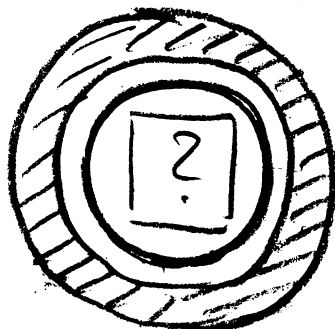
Ed: When you open the door and the light goes on it is a space . . . if it's natural light.

K: If it's natural light . . . Some of the dark-rooms which are used in laboratories . . . they always tell you . . . the doctor will always tell you "Well, there's one place where we don't need a view out . . . I don't mean a dark-room . . . I mean to say a coldroom where they have experiments. But you usually find that it is the man in charge of a project who says that while some student who is working for him is suffering . . . who has to do without light. He can't tell whether there's a bird outside, or if it's snowing or raining. When I got to talking to some of the underlings I soon found that they were very unhappy without a window so they could look out at something.

UNITARIAN CHURCH; ROCHESTER, NEW YORK

Ed: When you were in New Haven you touched on the various stages you'd gone through . . .

K: Let's put these four plans down. The idea which I sketched on the board before the congregation was my first reaction to what may be a direction in the building of a Unitarian Church. Having heard the minister give a sense of the Unitarian aspirations, it occurred to me that the sanctuary is merely the center of questions and that the school — which was constantly emphasized — was that which raises the question . . . and I felt that that which raised the question and that which was the sense of the question — the spirit of the question — were inseparable. And so, when I spoke, before the congregation . . . they had a blackboard on the platform . . . I drew this diagram:

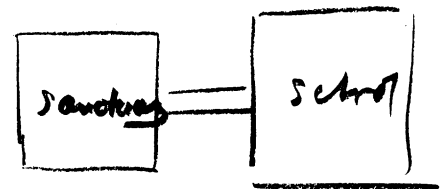


I Am Drawing,
NOT A DESIGN

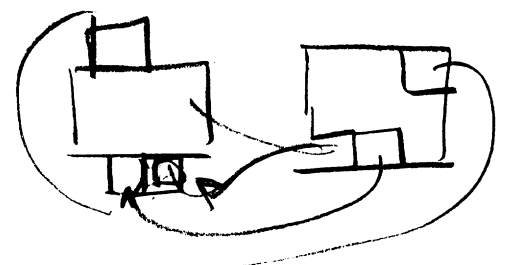
A square, the sanctuary, and a circle around the square which was the containment of an

ambulatory. The ambulatory I felt necessary because the Unitarian Church is made up of people who have had previous beliefs — they still have beliefs but they're simply beliefs of a different kind . . . they were Catholics and they were Jews and they were Protestants. I don't know much about religious ways except that I feel religion. So I drew the ambulatory to respect the fact that what is being said or what is felt in a sanctuary was not necessarily something you have to participate in. And so you could walk and feel free to walk away from what is being said. And then I placed a corridor next to it — around it — which served the school which was really the walls of the entire area . . . so the school became the walls which surrounded the question. The first plan was almost a literal translation of the form drawing as I would call it: form drawing — that which represented, which presented inseparable parts of what you may call a Unitarian center or Unitarian place. Although I did not know the specific requirements — I knew them in general. I felt that a direct, almost primitive statement was the way to begin . . . rather than a statement that already had many expressions of experience . . . which may modify so strictly translated a form as in this diagram. It was modified somewhat: the exterior became a square, the interior corridors were round and the sanctuary was still square. The four corners became larger rooms — they were immediately questioned because four larger rooms had to have four purposes. They couldn't have equal purposes very well because they were positioned entirely too — where the positions were too important. I tried to argue that they could be classrooms like any other classrooms — there are large classrooms and small classrooms. But this was a congregation which didn't have endless resources and money and they questioned everything that I put down. In dealing with the committees which were formed from various activity interests: the committee for the nursery, committee on nursing, committee on entertainment, committee on religious activities, etc., I developed their sense of program as I developed drawings. At one point they insisted that the sanctuary must be separated from the school — that was a terrible blow to me. All this form that I thought was really inherent to what you might call an inexperienced ritual — or rather a ritual which is not established, but a ritual which is rather inspired — could not then state its shape

and dimension to follow the ritual. Therefore I thought: the closeness of all parts was a better expression than that which already separated us from the two — in which you can say a school is a different thing than a sanctuary. And so I felt that it was something more than just a primitive statement of this, the beginning statement you might say which can make a Unitarian Church. Dividing may be just doing lip service to the many other activities of man, and imitating how others have made their churches which have a different kind of sense of ritual than this one has. And so at one point I had to simply show the auditorium as a separate thing — but I did this only in diagram, not in actual plan. I never could be forced to make a plan which satisfied this. I resisted making any kind of plan. I wouldn't have done it. But I did at one point draw what it would look like roughly on a piece of paper, a sanctuary in one instance connected with the school square, the school area.



I asked questions about the sanctuary: what do you do after services are over? They say they have a coffee hour; they discuss the things that were talked about in the auditorium. They felt that it would be very good to have a kitchen close to the sanctuary. So I took a piece out of the school block and put it next to the sanctuary. And then they felt another room was necessary next to the kitchen to serve the kitchen. So I placed that and took another piece off of the school. And so it was with other rooms that were necessary, placing them around the sanctuary.



And pretty soon they all began to realize that

we were back where I had started. It had to be that way because of the very nature of the activities, and I sensed right from the beginning that these things had to be close. I realized they didn't know what school really was; that a school was an adult room as well as a school-room for children. They wanted a kitchen, they wanted a sewing room . . . they didn't want a Chapel — somebody said it would be nice to have a chapel — any one of these rooms could become a chapel . . . such an indefiniteness as to what would be the actual space requirements of a ritual which is not established. With an unestablished ritual I felt that the most resourceful expression was not making distinctions, not making strong distinctions except distinctions of function — because it's a noisy thing on the exterior and a quiet thing on the inside. This also proved to be economically good because the interior required little heating and it's proving to be a very economical building. Now in the development of the various plans: the first plan is a literal expression of the form-drawing. A form-drawing — as opposed to a design. But because of the demands of the various committees and the drive for the naming of every room, the accounting for the need of every room, the first plan fell apart because the corners could not be justified; that is, the balance of rooms on the four corners . . . The various grades . . . school grades: kindergarten, junior classes and senior classes . . . wanted to be grouped together. And so all plans that follow give in to the design demands of the various committees and, of course, the limit of financing which disallow extra rooms prevented the development of a clear geometric form on the exterior of the building. At first there was a feeling of losing a great deal by this . . . and a formalization of these rooms on the exterior . . . which is expressed by this drawing in that rooms were kept as much as possible the same size so we could develop a structural system with some inherent unity in the system.

Ed: At this stage (# 3) it was still a series of cells . . .

K: Yes, and they still had little things over them, but it was losing itself there.

Ed: Well, they're all different sizes . . .

K: Some of them are . . .

Ed: Should the cell be say — from here to here?

K: No, from here to here.

Ed: Then they'd all be odd-sized . . .

K: It's just another development, a plan — which has not yet lost all these other earmarks — from the more formalistic stage which preceded it . . .

K: And the next one (stage # 4) is this . . . and there the smaller rooms were getting larger . . . there were just constant changes, that's all I can tell you. I don't know what else I can tell you. At this point I felt this is the big change here: before the window's flat, here the windows punched out of the walls. We felt the starkness of light again, learning also to be conscious of glare every time . . . whether it's the glare in Rochester or glare in Luanda, it still was one realization . . . if you looked at a Renaissance building with a . . . or rather a building in which a window has been highly accentuated architecturally — with its . . . well like this, for instance:

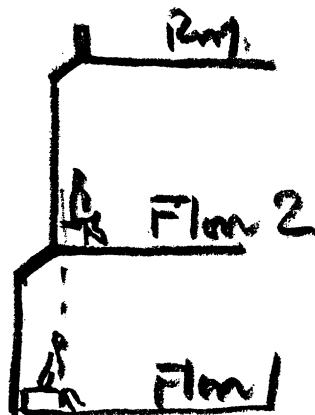


You have a window that's made this way . . . this pediment and a window of this nature . . . this is not a very good detail at all . . . this is not a good drawing . . . you know what I mean: a window that's made in this form — windows framed into the opening . . .

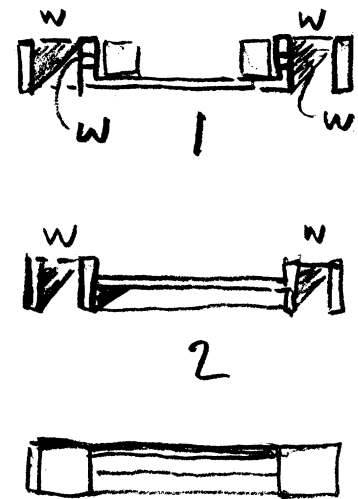


This was very good because it allowed the light

that came in on the sides to help again to modify the glare. When you saw light on the side of a wall, it helped you to look and so I felt that it would be well to have a framing of the window and to have blinders on the side of the window to give you a softness so that when you're not looking starkly out . . . when you're in the room off at an angle you can choose to see the light directly or not, depending on the reveal of the window itself. I felt a need to reveal. And this is the beginning of a realization that the reveals are necessary. And this came about also because there was a desire to have some window seats — there's a great feeling that a window seat should be present because there is no telling how the room will be used . . . it adds a friendliness, a hate of comfort and kind of getting away from someone and being alone even in a room where many are present . . . a room which is — its purpose is not settled — but is constantly full of human relationships and nothing starkly in the way of purpose . . . one that has a flexible purpose. I felt this window seat had a lot of meaning and it struck me as a demand of several people in the committee . . . this window seat had a lot of meaning and it became greater and greater in my mind as meaning associated with windows. And that's what this is. There's a true beginning of it in this plan (stage # 4). And it became really well expressed — I would say — in this plan when the windows — instead of being so very prevalent as in this plan — became much more carefully considered (stage # 5). And the windows were in a place where really you need them you see . . . and that's what finally resulted . . . this is the final plan . . . not quite the final plan, but pretty much the final plan . . . and these represent on the elevation . . . you'll see it here much better:



For instance, there's a window seat here on the first floor and there is another one on the second floor, but it is not the same configuration as the one on the first floor as the wall recedes inwards . . . In other words it steps in there and forms a window seat which is against the wall rather than in an alcove. In the lower the light in this case is gotten from the side at this joint and above it's gotten at this joint.



It's a play really of wall and variety in the getting of various conditions around the windows which caused one to make these changes. And in some instances this window seat turns into a thing which you don't need at all above and that would not be expressed here. At this stage — # 4 — the window seats were equal on 2 floors — were the same, I mean to say, on the 2 floors. And . . . what I did was to consider that you back up you might say, a façade to the line of the floor seat. And you back it up to it as though you were just wheeling something up to the façade. But in this case I reconsidered this idea of wheeling to it because these walls can be so much aid in the construction of this space because you get much more . . . you wouldn't need a beam if you actually used these walls in bearing. That was the way I arrived at this whole business . . . by backing it up to this . . . which later became an integral part of stage 4. A very important development in stage 5 is this: that above the library, coffeeroom, is a chapel for the school — the school for the students, the pupils. The getting of light below was a problem . . . though one could get light to shape this room above it was difficult to get light to shape this room below. So I devised four

wells for light in the four corners. The light came in above and went down to define this space below. This space being an oblong . . . only two sides in light was not sufficient to express the oblong . . . and therefore I felt that getting the light from above and down a well into the corners of the space gave expression to the form, to the shape, of the room chosen.

Ed: When you use light this way, you're using it to define the limits of the room.

K: Yes, I do. I find the limit of the room you actually give . . . I was concerned about the light in this particular room — the others were minor rooms and they get their light from, let's say, from one side — which probably is quite sufficient for the size of the room.

Ed: I'm still not clear, sir, about the stepping in of the wall . . .

K: The slab goes to here and this turns, the slab turns down to support this. And this turns down this way and the window seat is here. It avoids the development of a continuous roof line . . . it takes the boxed in windows which reach all the way up to the corners of the rooms — and frees them as elements.



Actually one of the elevations is drawn incorrectly, the roof line is behind the window. Yes . . . you see . . . that should be out because that should really be free standing. The idea is to develop really quite frankly a silhouette.

Ed: But the end result is that the stepped wall begins to look like a buttress . . .

K: No, I don't think so . . . this is just a seat.

Ed: No, I mean the inner part — the stepped part does.

K: Yes, well it might — of course, it might . . . This is really, you might say, a way of playing with the walls to give you a variety of impressions on the interior. It may look like a buttress, yes. That may be its criticism, if you like.

Ed: I wasn't implying anything one way or the other . . .

K: No . . . it makes it look like one. It's a way of controlling what you want below and above.

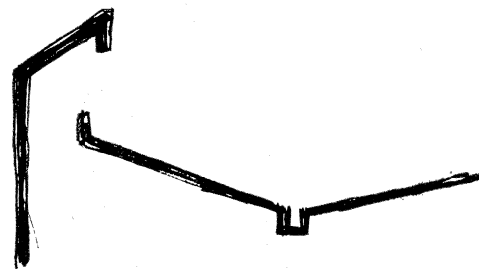
Colin Wilson said that when he was down here you were working on a new way of spanning the center part . . . he said something about three-legged tables . . .

K: (Discussing stage 5) You get your light from the four corners . . . four columns here and this is a concrete wall here. And off this concrete wall is cantilevered the roof. And this wall also holds these slabs which intersect — the beams are out — I've taken the beams away . . . but you get the light. I think we have the sections through it . . .

Also, there is an isometric . . .

This is a terribly, terribly difficult drawing . . . you've got to see the inside looking out . . .

. . . Now this, interestingly enough . . . this, acoustically is good (referring to the roof of central area). The turning of the slab upward . . . and these are good for reverberations . . . that you would get in the music. One of the corrections which the acoustical engineers have made is that they'd like us to make this slightly longer . . . this slightly down so that you've got more of a unity in the space and so that you don't get the separation of the two . . .



These spaces and those spaces . . . in form . . . it's a very interesting truth . . .

Ed: The angularity on the outside which will then be picked up with the horns.

K: . . . there were many more developments than this, by the way, because I had, at one point, four umbrellas with a column here, there, and there and there, an umbrella here, an umbrella there and there and an umbrella here. That was very nice — in fact, the one that represents this thing here with the four domes over

it was really . . . I gave up the idea because I hated the idea of the columns on the side . . . and I had to admit also that the columns on the side were encumbering. However, the umbrella scheme with the column inside and the things going off the umbrella was really a truer expression of that construction than the other . . . of being supported on beams at this point. I thought this was still necessary . . . up until the very end . . . until recently I found they were not necessary. A sense of structure . . . that's something I still have to learn a lot about — I have it but I don't. I have other things too that interfere with each other. I have the usual artful fainting spells, you know.

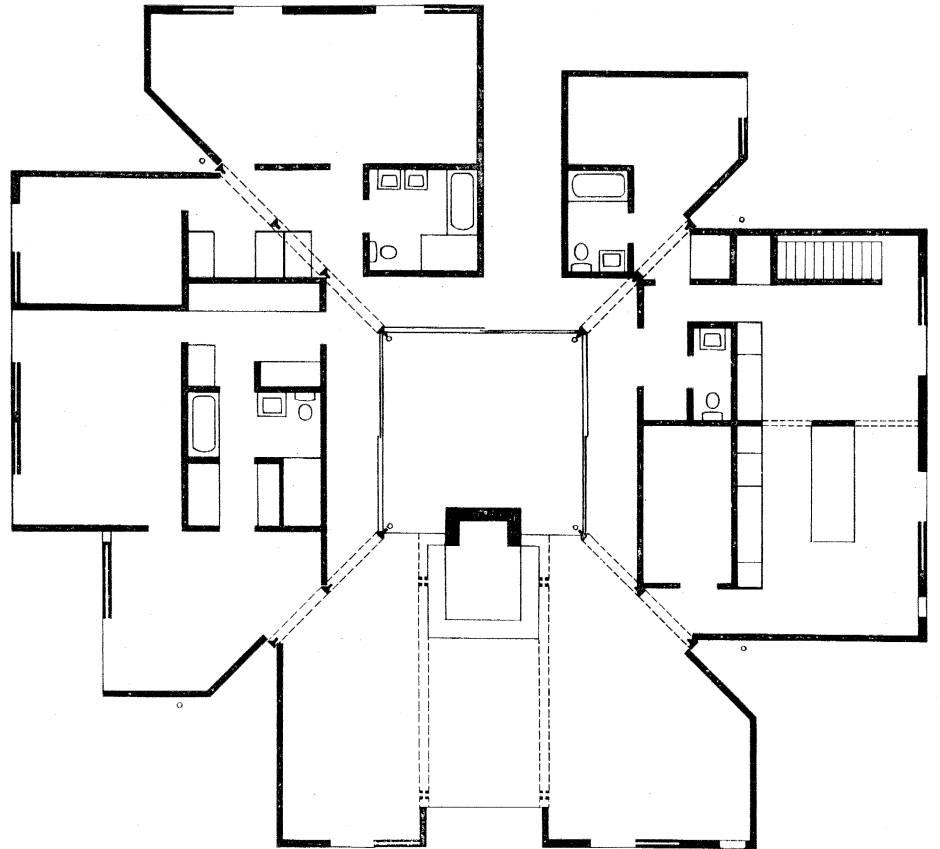
I derived the lighting of the big room — actually it's the same problem — from the small . . . but I couldn't really use the same construction that I did everywhere else . . . it became too important . . . in the hierarchy of spaces it became too important . . . this plan is strangely reminiscent of something which is derivative. You know, it's funny. This plan looks very much as the older Saarinen did it.

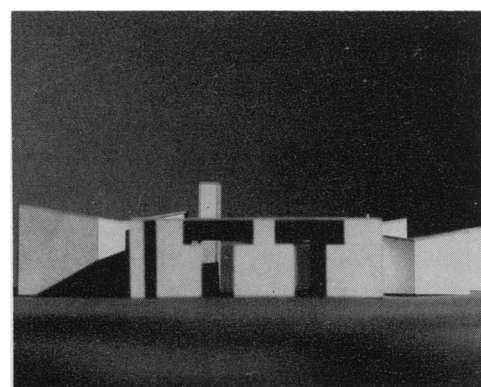
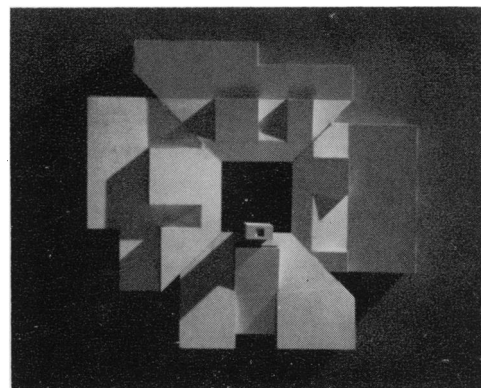
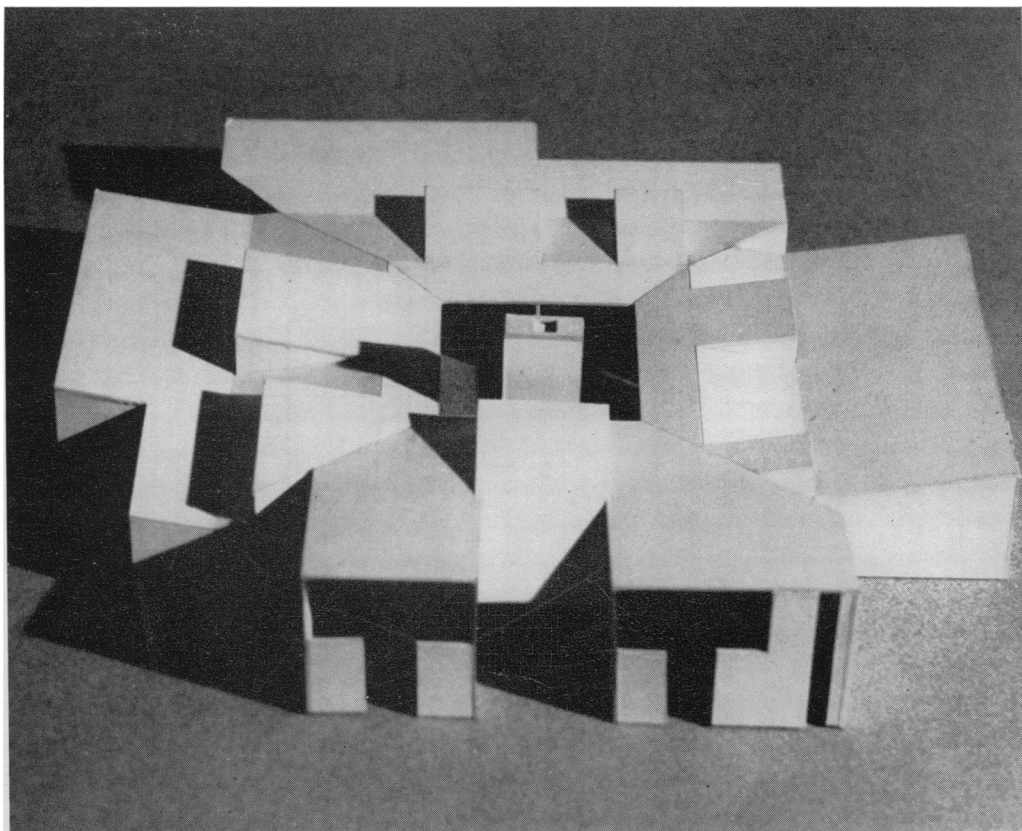
It looks somewhat like it and it came with very little consideration of this . . . it came by backing a façade to it, various ways which were brought to it and then the rightness of it . . . as you felt the rightness of it is what established it.

It's very Gothic, isn't it? Does that bother you? I like it myself.

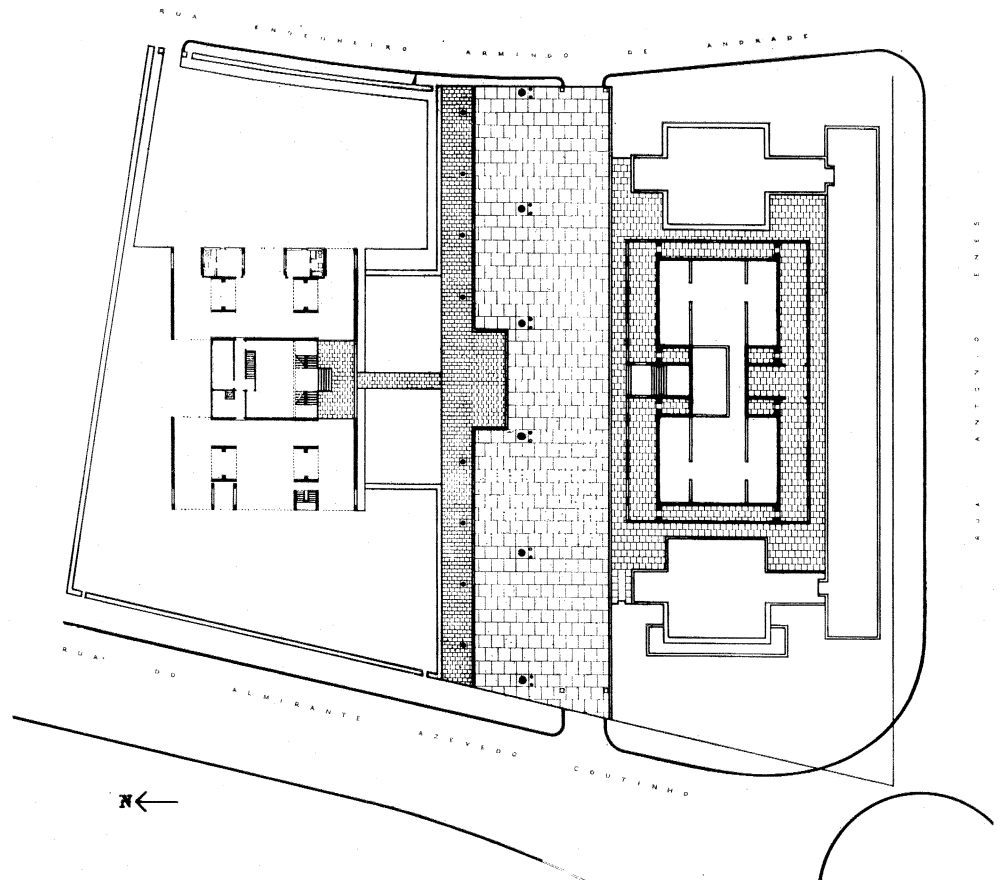
GOLDBERG HOUSE; RYDAL, PENNSYLVANIA

Plan and model





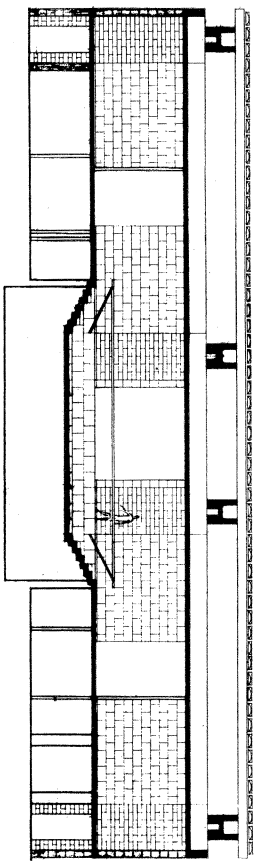
AMERICAN CONSULATE; LUANDA, PORTUGUESE ANGOLA



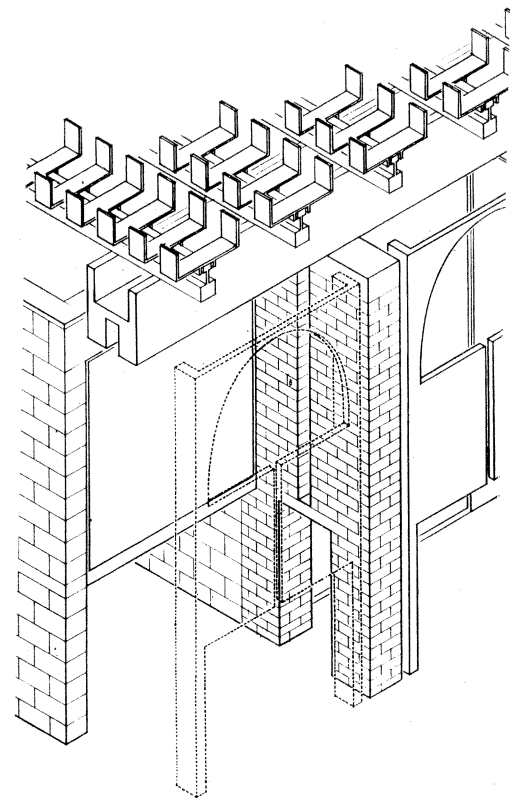
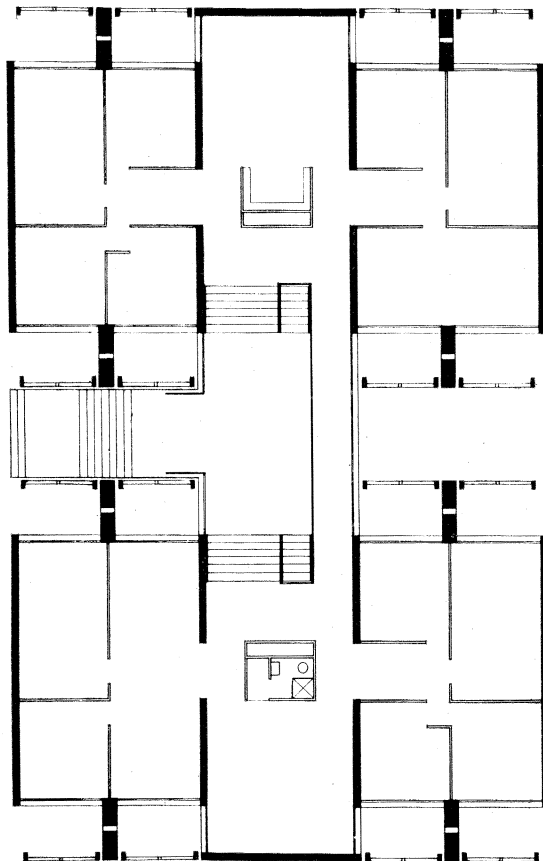
Site plan

Residence on left

Consulate on right



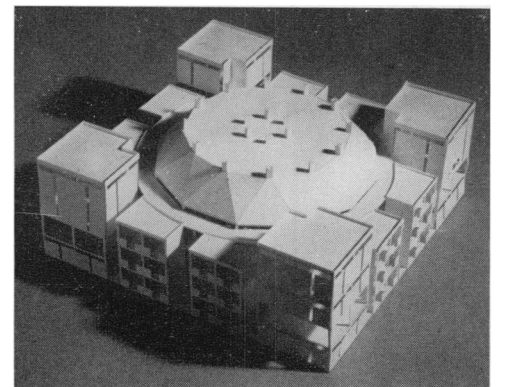
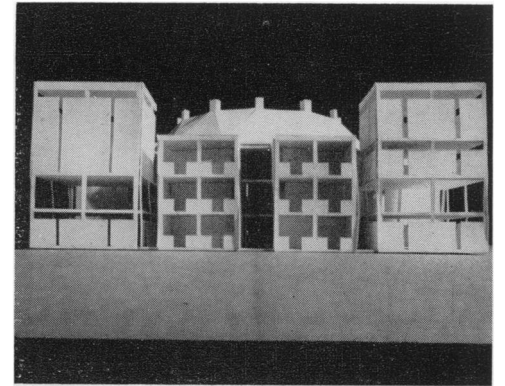
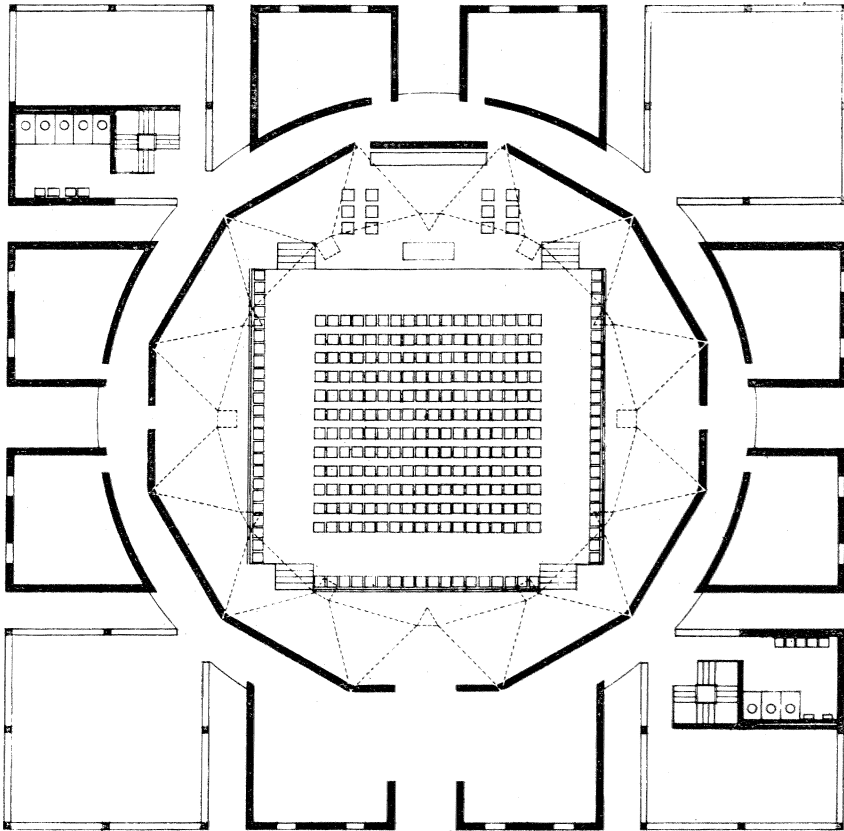
Longitudinal section and plan of main floor



Isometric of wall and sun control systems

UNITARIAN CHURCH; ROCHESTER, NEW YORK

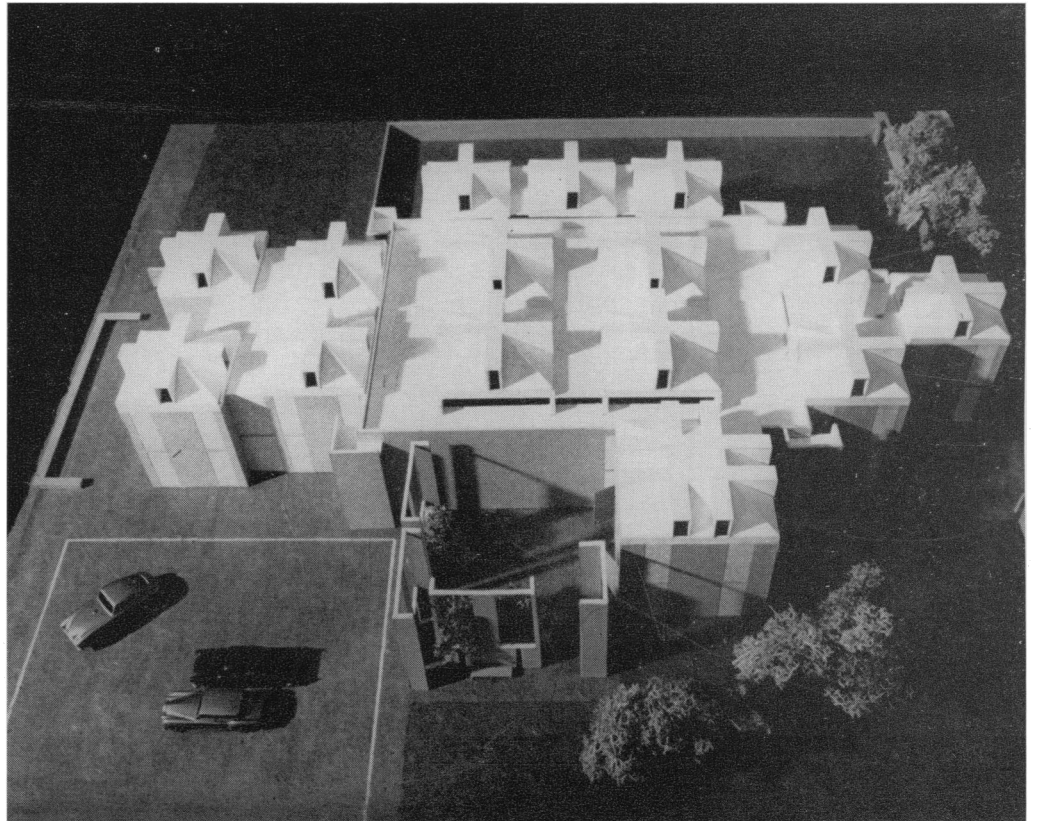
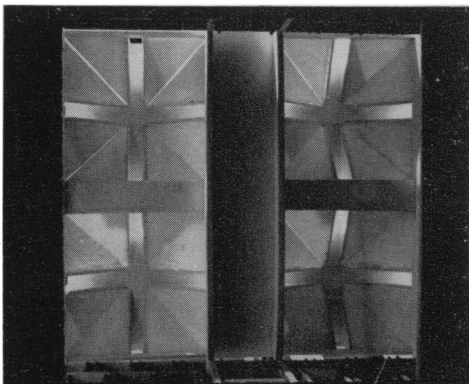
Stage 1



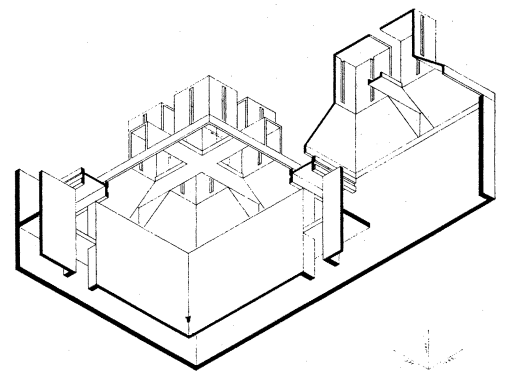
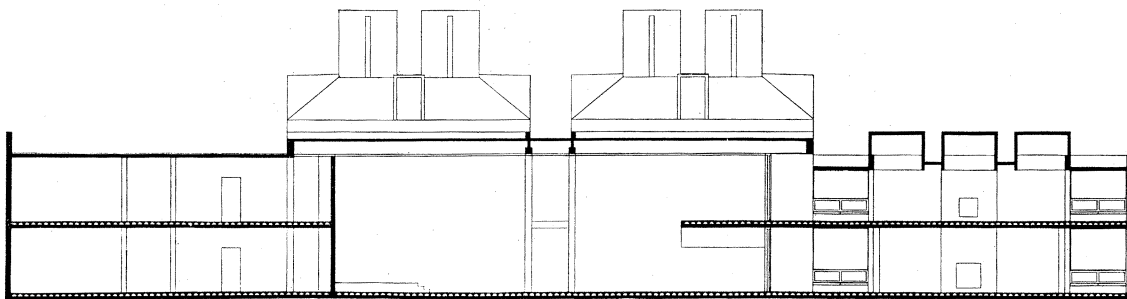
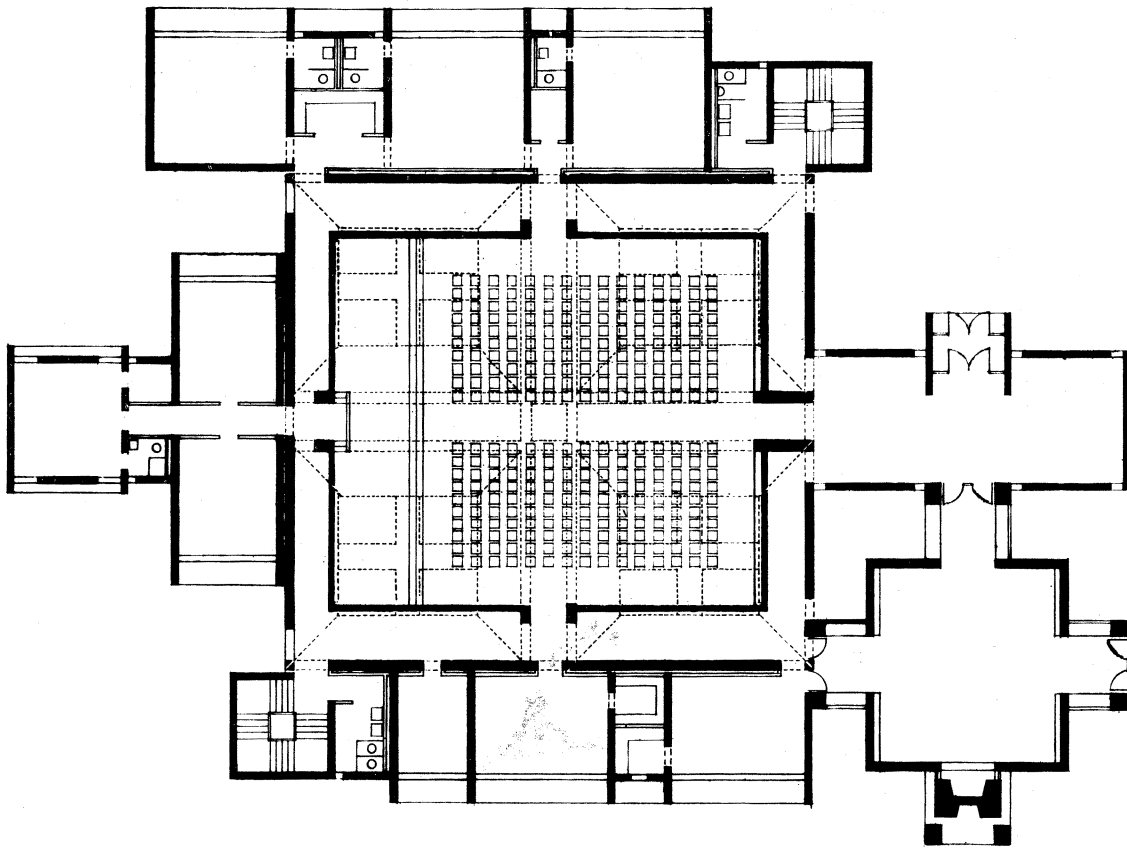
Stage 2

Right: model

Below: model of ceiling



Stage 3



Stage 4

