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Interaction of Programming and Design: The First Unitarian Congregation of Rochester and Louis I. Kahn

This essay investigates the relationship between programming and design. It exposes and criticizes those views that characterize programming and design as separate and their relationship as linear. Instead, we propose that the relationship is interactive and that the clarification of programmatic and design issues goes hand in hand. During this interactive process both client and architect take significant responsibilities. The design process of the First Unitarian Church of Louis Kahn is an illustrative example. Investigation of the client's reports, of Kahn's and the client's letters, and of Kahn's design proposals exposes the client's contribution and the interaction between programming and design. Our study suggests that clients have the potential to play crucial roles in design and deserve credit.

Introduction

Texts on architectural programming help propagate a view of traditional practice. Many texts, starting with William Peña's landmark *Problem Seeking* (1977), have argued that programming and design are separate tasks, with different logical structures and different roles for clients and architects. Peña argued that programming is an analytic task focused on gathering and assembling facts about potential goals and on decomposing design problems. By contrast, he viewed design as synthetic, putting ideas together and creating new forms. According to Peña, experienced architects should start sketching only when all the relevant information is available to them.[1] Peña states that "programming precedes design just as analysis precedes synthesis. The separation of the two is imperative, and avoids trial-and-error design alternatives. Separation is central to an understanding of a rational architectural process, which leads to good buildings."[2]

This view of programming and design carries implications about clients' and architects' roles and perpetuates a professionally dominated process that Horgen et al. recently called the "technical-rational" approach.[3] According to this approach, the professional possesses expertise and the client is only an information source. The programmer collects information, identifies conflicts, and provides a coherent set of goals and specifications for designers. Designers engage their core competence in form making and produce proposals for the client's approval.

The critical characteristics of this approach — that design should be delayed until information gathering and analysis, that the client's role is to provide information and approval, and that the single heroic designer is primarily responsible for creative design — pervades architectural scholarship, education, and practice.[4]

In this paper, we examine a well-known historical example, the First Unitarian Church (FUC) designed by Louis Kahn (1959–1961) (Figure 1). The conventional story, told by Kahn, narrates the triumph of a genius designer endowed with a "concept" before his first meeting with the client that guided the design process in an almost linear fashion.[5] Kahn's account does not give any credit to the client.[6] However, a careful look at the original documents from the project suggests a different and more complex story than Kahn's linear description of the process. The project certainly did benefit from data gathering and analysis by an unusually competent client and from form giving by an outstanding architect. The significance of this project stems from the efforts of the Unitarian congregation and several of its committees (both prior to and during the design phase) and from the efforts of Kahn to redefine the program through the design process. The efforts prior to the design phase empowered the congregation to become an active participant in the design, leading to a project that was simpler and more efficient than what Kahn originally proposed. Kahn's reformulation of the client's program and requirements throughout the design process, on the other hand, helped the client in their effort of community building and provided them with a building that surpassed mere functionalism.

The inquiry of the FUC reveals that both the congregation and Kahn went beyond limited understandings of program and design and the conventional roles ascribed to client and designer. It is important to note that Kahn had a very particular view of program. He states that "the program is nothing. The program is hindrance. You must answer the program. . . . [I]t is the occupation of the architect to change the program, to make the program alive to the very existence will which started the school."[7]

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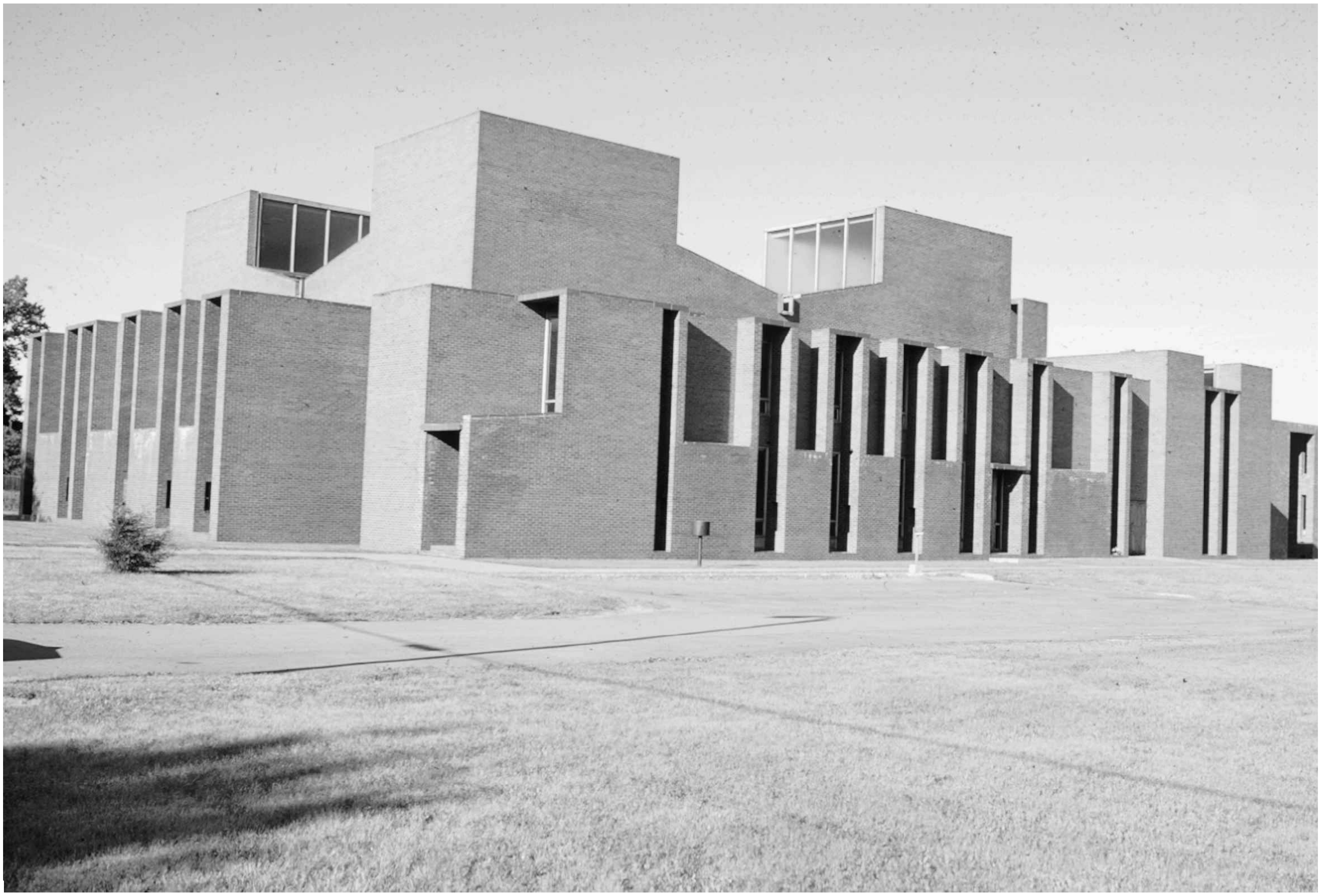
1. First Unitarian Church, Rochester, NY (Photo: Robert M. Craig).



In 1964, he would pronounce that an architect "must refuse the program, he must change the client's program — which reads in the form of areas — into spaces."[8] What Kahn refuses here is the conventional program, which lists facilities, functions, and areas. What he proposes instead is a search for the existence will of a design problem that exposes the nature of a space. The existence will of a school, for instance, is not classrooms and corridors but "a realm of spaces within which it is well to learn."[9]

In 1957, around the same time that Kahn was formulating his ideas, John Summerson described the program as "the source of unity" and "the one new principle of modern architecture."[10] Summerson states that "a program is a description of the spatial dimensions, spatial relationships, and other physical conditions required for the convenient performance of specific functions."[11]

This statement, however, does not formulate what a satisfactory program is, which Summerson describes as one that responds to a process and that cannot quantitatively be formulated. The shift from a quantitative program to a qualitative program is what Summerson suggests as the novelty of modern architecture. According to Summerson, this led to a dilemma between form and program and to a missing architectural language for which modern architecture failed to provide an alternative.[12]

Kahn's writings, perhaps, suggest the clues of a resolution for the missing language and dilemma. He states that "the existence will of something . . . will be the thing which makes the form."[13] In Kahn's writings, *form*, to the contrary of its conventional meaning, refers to "the difference between one thing and another, a realization of what characterizes it. Form is not design, not a shape, not a dimension. It is not a material thing."[14] Design is material and it is the realization of the form according to the circumstantial needs. What determines the unity, according to Kahn, is the form, which restricts and shapes the design decisions. The design process follows a progression from the realization of form to the circumstantial design. (See Figure 2.) It is in the FUC that Kahn claims he followed his now famous design theory. With this historical background in mind, the FUC becomes important in both Kahn's theoretical development and in the literature of the history of programming.

The Preliminary Phase: The Five Documents

Our study of the FUC begins with the investigation of the documents prepared during the preliminary phase prior to architect selection, followed by an inquiry into the relationship between the congregation and Kahn and an analysis of the design process of the FUC to determine how programmatic and design issues are clarified mutually.[15]

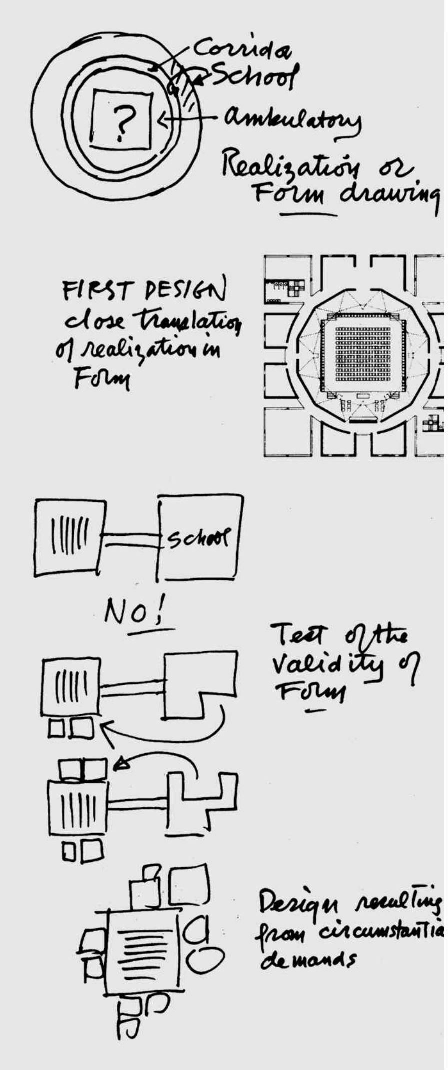
In the second half of 1950s, the downtown of the city of Rochester, NY, was radically changing. The site of the old FUC of Rochester was part of a redevelopment plan, and the developers were encouraging the congregation to move out.[16] In addition, the congregation witnessed increasing growth during these years, and the existing building no longer accommodated the needs of the congregation.

The report entitled *What Can We Do About Growth*, prepared by William F. Neuman, the president of Board of Trustees of the Congregation, discusses the consequences of the growth in terms of the size of the congregation and of the church building, the location of the building, and the necessary annual budget for the expenses. Neuman first determined three alternatives to deal with the growth: set a maximum limit on the number of members, continuously expand the church building, and establish daughter fellowships.[17] He stated that the consensus of the Board of Trustees and of the Advisory Committee was in favor of the third alternative. The report's second concern was the location of the proposed building. Neuman states that, because the Board and the Committee were in favor of establishing daughter fellowships, a "mother" church had to be located centrally to be influential over a geographically distributed congregation. Finally, Neuman discussed the expected size of the building related to annual expenses. He determined that the annual cost of supporting a well-organized congregation, of any size, would be about $40,000 and that it was reasonable to collect $100 per year from each family. This resulted in four hundred family units to determine the size of the sanctuary and other facilities.

Fact Finding on Four Courses of Action

Based on Neuman's analysis, the congregation decided to consider four alternatives and formed a committee called the Fact-Finding Committee. The alternatives, discussed in a report entitled *Four Courses of Action*, were to retain status quo, remain in the existing church building and build a new religious education building, build a new edifice, or move to an existing building in the downtown area.[18]

2. The design process drawing of Louis Kahn, which he used to illustrate his theory of design also. The first diagram is Kahn's "Form" concept diagram; the second is his first design scheme. The third diagram illustrates the brief period during which Kahn considered the attached-building solution favored by the congregation. The fourth shows how he changed this scheme and made it more compatible with his "Form" concept. The final diagram represents Kahn's final design scheme (Copyright 1977 Louis I. Kahn Collection, University of Pennsylvania and Pennsylvania Historical and Museum Commision).



The discussion of the first action (to retain the status quo) included an evaluation of the existing building and clarified the dissatisfaction with it, which were crucial in helping the congregation clarify the programmatic requirements. Their evaluation determined the following problems. The narrow entrance hall was dangerously overcrowded. The mechanical system was old and had distracting acoustical effects. Its inconvenient location made crossing the street dangerous. The kitchen, dining room, and cloakrooms were inadequate. There were acoustical concerns, and there were no private office spaces, no satisfactory arrangements for coffee hours, and no separate classrooms for each children age group. Moreover, the report mentioned the importance of the school and of its relation to the sanctuary, which became one of the major issues in the design phase.

In the second course of action (to add a new education building, along with the repair and maintenance of the existing building), three schemes of enlargement were analyzed. The three enlargements offer alternatives for different seating arrangements in the sanctuary accompanied with a cost estimate.

In discussing the fourth course of action (reusing an existing building), the report addressed the appropriateness of converting a building, the Temple B'rith Kodesh, into a church for the congregation. The report gives an account of the spatial and structural qualities of the Temple and specifies the legal difficulties concerning the transfer of religious properties.

The third course of action (building a new church and school) was the course of action selected by the congregation. Its report emphasized a liberal approach to religion and its dynamic expression in architecture. It acknowledged the challenge as an opportunity in expressing a liberal dynamic view of the Unitarian faith and in designing an outstanding contemporary church at a moment when there were no satisfactory precedents. The report states, "to have the opportunity to express our faith in an exciting and lasting architectural endeavor is to have an opportunity that is only rarely available to a congregation."[19]

In addition, the report emphasized the role of their efforts in reinforcing the social bounds within the congregation. The report states,

> We have talked to the ministers of five of the churches in the Rochester area that have built new buildings in the last five years. In every

> case these men have offered glowing testimony of the reinvigoration of their congregations as a consequence of such a project. We have heard such statements as “building of a new church gave us new life” and “we did not recognize our own potential.”[20]

This enthusiasm sustained the congregation's long-lasting motivation during the design phase.

The report also discussed their present and future size and the required seating capacity in the sanctuary; the present and future enrollment and attendance at the school; the programmatic requirements, with itemized areas of spaces; the cost, location, size, and availability of construction sites, and the available funds. The estimated cost was based on recently built churches in the area. The importance of a central location was reemphasized while identifying the available sites in downtown Rochester.

The report ends by reemphasizing their main issue: an aesthetically satisfying design within a tight budget. It states:

> It appears that the construction of a plant as outlined in this report would be a very large financial undertaking for our present congregation.
>
> We probably can finance such a plant at the minimum total cost but at not much above that minimum. One alternative would be to build a structure with better than minimal features of design and finish but smaller in size. We would plan to make a suitable addition to the church school later.[21]

The Questionnaire

After completing the *Four Courses of Action*, the committee administered and analyzed a questionnaire distributed to all members of the congregation, receiving some 240 replies. The questionnaire clarified the congregation's preferences for stylistic issues, size, purpose, program and facilities, and financial issues to “1) assist the Board of Trustees in selecting an architect and 2) give the architect a general idea of the kind of building the congregation would like.”[22] *Report to the Congregation from the Fact-Finding Committee on Church Document* summarizes the findings.

The first group of questions dealt with stylistic issues. Members were asked whether “a church should reflect the belief of the people who worship in it” and if so to specify the relevant characteristics of the Unitarian faith and of a building that will reflect this belief by selecting appropriate adjectives from a given list of descriptors. The members affirmed that a church should reflect the Unitarian faith, described as “searching, rational, democratic, non-dogmatic, tolerant, ethical, unity-in-diversity and dynamic.”[23] Members described the physical structure representative of the Unitarian faith as “functional, imaginative, plain and simple (beautiful in simplicity), dignified and harmonious (in itself and in relation to the site).”[24] In a follow-up question, the survey asked members to rank three architectural styles in the order of preference: classic, contemporary, and modern. Thirty-seven percent of the respondents selected contemporary as their first choice, and thirty-six percent rated modern as their first choice. Members' preference for exterior materials ranked from the most to the least pleasing as follows: stone, brick, glass, wood, concrete, and cinder block. Interior materials, in the same order, were paneling, wood, and plaster. There was no dominant view about symbols except some who thought symbols were necessary but should be “well conceived” and “well integrated” with the architecture.

When asked to select appealing churches from a series of pictures and to name other churches they liked, respondents picked the following churches: the Unitarian Churches in Plandome, NY; Arlington, VA; Madison, WI; Montgomery County, MD; and Toronto, Christ Lutheran in Minneapolis, MN; the Roman Catholic of the Resurrection in St. Louis, MO; the MIT Chapel, and the Congregational in Kent, OH. Members expressed their dislikes also, such as “for any and all churches resembling ‘teepees,’ ‘pup-tents,’ ‘pyramids,’ new schools, new factories, split-level homes, ranch type, ‘bizarre,’ geometric type, extreme modern, and those mostly of glass and odd shapes.”[25]

For a question about potential architects, members gave the names of F.L. Wright, E. Saarinen, P. Belluschi, E. Stone, and local architects S.R. Sheppard and O. Valvano.

The second group of questions was about the future enlargement of the building, the way to handle the growth, and the seating capacity of the sanctuary. Seventy percent of the members felt that the church building should not be enlarged. Forty-two percent were in favor of two services, and forty-five percent were in favor of daughter fellowships. The majority thought the seating capacity in the sanctuary should be five hundred.

The third group of questions covered programmatic issues, including specification of facilities, the feeling of the sanctuary, the materials, and the music. Members emphasized their church's centrality in their social life for educational, cultural, and recreational services it provides, such as “concerts, art exhibits and classes, amateur plays, adult forums and discussions, coffee hours after church, ‘family’ education and recreation programs, week-day nursery school, program for senior citizens, teenagers and youth groups.” In the second question members specified the essential facilities as “auditorium-sanctuary, church school, offices for ministers, church secretary and church school secretary, dining and kitchen facilities, social and recreation rooms, coat rooms, lavatories and storage space” and half of the answers added additional facilities related to choir, library, and lounge. The answers determined the importance of the multipurpose use of the sanctuary and as well as of other spaces in the building. Members described the ambiance of the sanctuary with the adjectives “dignified, ‘warm,’ comfortable, welcoming, friendly, stimulating (intellectually, emotionally and spiritually) and reverential.” For the interior finishing, the members preferred paneling, wood, and plaster over plain cinder block, plain concrete, painted cinder block, and painted concrete.

The most crucial question in this group focused on the relationship between the education and the church buildings. The question asked members to select one item of the following pairs that describe the new buildings:

ground floor	or	two floors
attached to main building	or	separate from main building
for Church School use only	or	for multipurpose use
for one session only	or	for two sessions

Members wanted a multipurpose building and an educational building attached to the main building. This issue became the main concern behind the programmatic and formal considerations during the design phase.

The last question asked members whether financial resources should be increased. Forty-two percent of the members suggested that the $505,000 budget should be increased to achieve the best building, and 30 percent thought the limit should not be increased.

Other Documents

At the end of the questionnaire, members were asked to provide specific and general comments.

The committee summarized the results and the comments in a document entitled *The Profile of the New Unitarian Church Building*. The profile emphasized nine points from the statistical results, as discussed previously. It also included six selected comments expressing issues ranging from material, to budget, to motivation and the relation to the selected architect. Mr. Roger Coakley's comment expressed the motivation of the congregation as follows:

> I strongly believe we should design a church which will best meet our needs and which will satisfy us aesthetically and then find a way to pay for it. . . . If we are not willing to make a concerted financial effort to get the best possible church and church school, we have little reason to stick together as a congregation.[26]

Mr. Raymond Nasemann's comment acknowledged the challenging task and the difficulty of satisfying the requirements as follows:

> This questionnaire certainly points out the difficulties which beset us! It is not feasible to decide such questions as materials and design discretely. . . . In reality we must pass all of these considerations to an architect whom I fervently hope will perceive all for which we strive. Unfortunately, you can't tell an artist how to paint — only if you like his painting.[27]

This clear expression of the client's acknowledgment of their limits and capacities and the architect's expertise was reflected in several documents that set the stage for future interactions with the architect.

The last document prepared is entitled *Recommendations of the Building Committee for the New Church*. The document lists in a concise form the facilities required in the new building. This document might be considered as a programming document in a conventional sense, listing the required spaces and facilities. The committee repeatedly used the document to remind Kahn of its essential requirements at times of conflict.

Architect Selection

The congregation decided to build a new building that would be as outstanding as their old one (Figure 3), designed by Richard Upjohn, the first

3. The old Unitarian Church, Rochester. Designed by Richard Upjohn in 1859 for the third Presbyterian Church of Rochester (*Richard Upjohn: Architect and Churchman* by Everard M. Upjohn. Copyright 1939 by Columbia University Press. Reproduced with permission of Columbia University Press).

president of American Institute of Architects. At first, the Board interviewed local architects. However, when they discovered that architectural fees were proportional to the construction budget and that it would not be any more expensive to hire a famous architect, they decided to establish an architect selection committee, whose members were James Cunningham, Bath Ruth, and Jack Bannett, who would later be replaced by Jean France. The committee members were knowledgeable about the architecture of that time. Bath Ruth had a master's degree in architecture from Harvard, and James Cunningham took courses from Kahn.[28]

The Board asked the committee to select only one architect because they thought having more than one candidate would divide the congregation. The committee decided to contact well-known architects with small offices and who were the chief designers in their office. They contacted F.L. Wright, Paul Rudolph, Carl Koch, Eero Saarinen, Walter Gropius, and Louis Kahn. They visited the works of the architects before meeting them. Their impressions of the works primarily guided their selection. Jean France states,

> We discovered that this was an unusual way to do it. We thought that if we were going to hire an architect we ought to see his buildings. And we ought to talk to him. But first of all we ought to see what he had really done. We discovered later that how people usually hire architects is to have them come and make a speech and show photographs. And we figured photographs were not the same as buildings. And we were not gonna play that game.[29]

Wright was not terribly interested in the job, and his price was high. Saarinen could not take the job because of time constraints. The committee visited Rudolph, but they were hardly impressed by his work and his reserved personality. They thought his concept for his Greeley Memorial Laboratory of the Yale University Forestry School was "surface not real" and about his Jewett Arts Center for Wellesley College very "gimmicky." The committee visited Gropius who impressed them by his philosophy and personality. They thought he was a "marvelous man," yet "he was not our [their] man" because his work lacked the emotional depth and was more businesslike. Finally, they visited Kahn in his office. They very much liked the atmosphere of his office. After their meeting with him and visiting his buildings, they decided that he was "their man."

France lists five major reasons for selecting Kahn. First, he was philosophical. Second, he, and not a junior designer in his office, was going to be in charge of the design. Third, the timing was perfect; he was not yet an internationally well-known architect but he had reached a stage of questioning the beginnings of architecture. Fourth, there was a strong integrity in his use of materials. Finally, his architecture was modern, yet with emotion and with connections to past. They believed that "religion couldn't be without emotion."

Establishing the Interaction between the Congregation and Kahn

Kahn was the candidate of the committee. William F. Neuman invited him to Rochester as the selected architect for "the creative assignment," stating as follows:

> If, as we expect, the assignment proves sufficiently challenging to you and terms are mutually agreeable, we would then like you to spend Thursday [June 18 1959] examining possible building sites. . . . Your opportunity would not be to sell yourself but rather to develop the interest and enthusiasm of the congregation in your conception of the creative opportunity which our building program provides.[30]

This letter has three important points. First, the letter emphasizes creativeness and challenge rather than simple fulfillment of programmatic requirements. Second, the client acknowledges the expertise of the architect. Third, the selection was a deliberate decision based on Kahn's prior work.

The following letters illustrate a collaborative effort, yet with conflicts and disagreements. At least in two moments the relationship became tense: after the first submission of design drawings (December 13, 1959) and during the acceptance of construction bids (June 15, 1961).

Helen R. Williams, the building committee's first chairperson, wrote a letter to Kahn in February 28, 1960, in which she describes their agreement and expresses their frustration with the December 13 submission. Williams writes,

> When we asked you to design and supervise the construction of our church, you said at the outset that it might take time just to develop a satisfactory plan, and that we would have to "grow together." The more the committee members meet and get to know one another, the more straightforward we have been able to become with one another. The result of our several meetings this past week is that we are not in any measure happy with the present concept which you have given us.[31]

The stress on "growing together" emphasizes the interactive design process and reflects their interest in creating a balanced relationship with the architect. Based on this agreement and their preliminary work, the committee developed greater confidence to confront the architect not only with the functional requirements but also with formal specifications.

In a telegraph sent to Dr. M. Van Horn, the second chairman of the Building Construction Committee, Kahn adopts a tone similar to H.R. Williams's letter and emphasizes collaboration, while trying to convince the committee to accept high construction bids. Kahn writes,

> I wish to reinforce belief in the building we designed and to encourage that it be built in its present form. Our work and work of your committee has I believe brought together a structure of simplicity and inspiration. Though the bid is higher than our ways of determining cost has indicated we believe that at the present time it is a fair bid.[32]

Other examples of correspondence prove how much the committee was effective in shaping the design. The issues raised by the committee range from the structure and geometry of the sanctuary's ceiling to the realization of design concept. The three following examples are illustrative of the range of issues that the committee was able to address. In a letter dated April 2, 1960, after the proposal for the auditorium was generally found satisfactory, M. Von Horn asked for specifics of the acoustics of the sanctuary. He writes, "It appears that the geometry of the ceiling and side walls of the auditorium will have noticeable acoustical effects. It seems desirable to find out before the design goes further whether reverberation time and reflections will be over — or under — corrected."[33]

In another letter, dated July 8, 1960, Von Horn brings up the issue of lighting and acoustics in the sanctuary writing as follows:

> The light shafts containing the organ pipes will act as resonators with a resonance at about 16 cycles per second. The swells and damper mechanisms cannot be fully exposed. When you were in Rochester you said that you were not satisfied with the light distribution in the auditorium. Conversation with a member of the staff of the Institute of Optics of the University of Rochester confirmed that the light pattern might be uncomfortable under certain conditions.[34]

In a follow-up letter dated February 17, 1961, Von Horn goes into the details of lighting in the sanctuary writing as follows:

> I especially note that the reduction factor of 62 for the lowered tower height is severe. This factor would be even larger if the wall surfaces above the 20 foot height were not painted a flat white with a reflectance of 90%. If they are unpainted, with an estimated reflectance of 60%, the central interior illumination would be only 11–12 foot candles on a light overcast day instead of 17.[35]

Kahn mesmerized the Board in his first meeting, yet, as one of the members of the Board states, "to work with him was disillusioning" because of delays in design and because Kahn was reluctant to accept the client's requests and requirements.[36] During 1960, the committee was hardly satisfied with Kahn's performance, which led Helen R. Williams to express her frustration to the Board of Trustees in January 30, 1961, stating that "Mr. Kahn has failed us miserably."[37] Later, on February 28, 1961, H.R. Williams resigned from the committee because of Kahn's unwillingness to collaborate.[38]

The process was productive, yet also tense. The result was "a lot better building because of the tension between the client and the architect than it would be if either was alone . . . if neither of them rethought it."[39] According to the Board and the architecture selection committee, it was mainly their insistence that forced Kahn to realize his design concept within a "workable" scheme.[40] In an interview with the Board members, a member states as follows:

> Member: . . . after all we were hoping to create a work of art but also we were hoping a church that we could use.
>
> Interviewer: But do you feel at the end that the committee got a real practical response from the guy [Kahn]?
>
> Member: What probably more from Kahn than a lot of committees might have.[41]

Kahn's account of the design process reveals the other side of this tense, yet, collaborative effort. Kahn states that he developed the committees' sense of what the program should be while working on the design.[42] To Kahn, the First Unitarian Church was more than a school and a church: it was a place where people would ask questions about their existence, deal with those questions, and be involved in each one of these activities at different levels. A discussion on Unitarianism with a minister in Philadelphia might have influenced Kahn in formulating his concept.[43]

The Design Process

Robin B. Williams describes three design phases in the First Unitarian Church.[44] The first phase began in July 1959 and ended in December 1959 when Kahn submitted his first set of drawings, which he calls the "First Design" and describes as "a literal expression" of his form drawing.[45] The second phase started after the rejection of the first design in December, during which Kahn briefly considered a scheme with separate school and church buildings. The third phase started in the spring of 1960 until June 1961 when the congregation endorsed Kahn's final solution (Figure 4). Construction started on June 23, 1961, and ended on January 30, 1963.

At his first meeting with the congregation, Kahn presented his famous "Form" diagram that represented his concept about the spatial configuration and the use of the building. (See Figure 2.) He "impressed" and "mesmerized " them both by his philosophy and by his concept.[46] Bob Jonas, a member of the Board, describes Kahn's design concept and his persistence as follows:

> From the very time he first came and presented this idea about the question surrounded by the other things that was the central theme of the building he was gonna build regardless what the building committee might have in mind. . . . He eventually built that concept but within a theme of a very workable building.[47]

The diagram, a square in a circle representing the sanctuary with the surrounding rooms devoted to education and social events, captured the congregation's view of the relationship between the building and their liturgy and social practice.

In a speech given at the Otterlo meeting of CIAM in September 1959, Kahn discussed what he imagined by this concentric arrangement. He states,

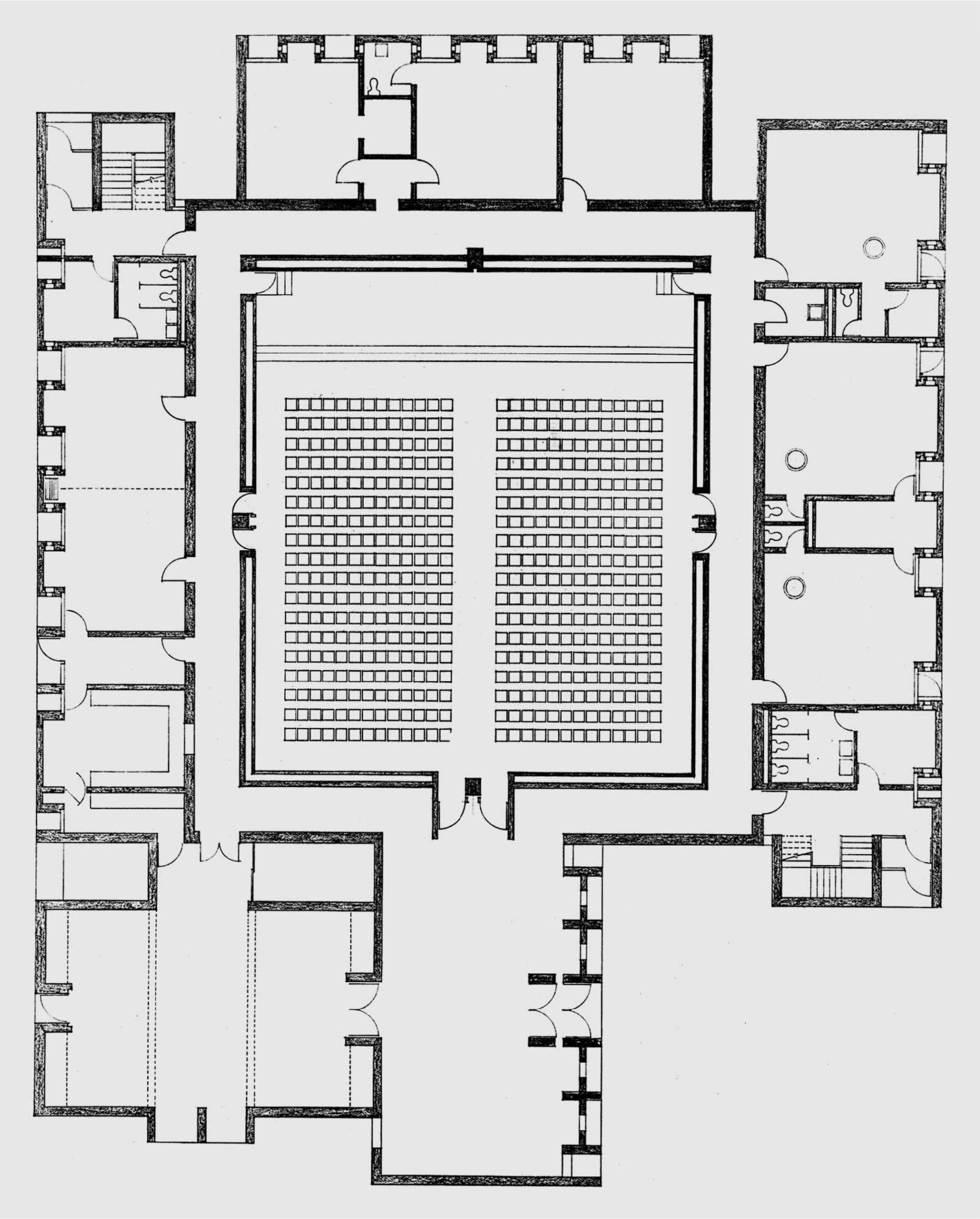
> So, what is a chapel really? A chapel, to me, is a space that one can be in, but must have excess of space around it, so that you don't have to go in. That means, it must have an ambulatory, so that you don't have to go into the chapel; and the ambulatory must have an arcade outside, so that you don't have to go into the ambulatory; and the object outside is a garden, so that you don't have to go into the arcade; and the garden has a wall, so that you can be outside of it or inside of it. The essential thing you see, is that the chapel is a personal ritual, and that it is not a set ritual, and it is from this that you get the form.[48]

The congregation praised Kahn's concept, which was a close expression of their liberal approach to design. In the first six months of the design process, Kahn focused on developing this concept and on December 13 submitted his first design drawings.

The committee dismissed Kahn's first design proposal, and they tried in at least three letters to convince Kahn to make a fresh and completely different start. In the first letter, dated January 8, 1960, Helen R. Williams reported "As individuals, the members liked your original, basic concept, but none of us care for your subsequent revision," because the first scheme was too expensive, was not a flexible solution, did not have enough classrooms, and the client wanted the building to be more appropriately located on the site. Mrs. Williams also reminded Kahn that "time is rapidly becoming an important factor. . . . It is disappointing to realize that some eight months have elapsed already and we have nothing to show."[49]

In the second letter, dated February 28, 1960, George R. Williams stated their frustration with the two proposed revisions to the first scheme. G.R. Williams expressed their feelings as follows:

> Two sketches dated February 16, 1960 represent a modification of your original idea pared down to meet our conflicting space and budget requirements. . . . In modification most of the charm of the original concept has been lost. . . . Our greatest concern is with the



4. Kahn's final scheme for the First Unitarian Congregation (© The Architectural Archives of the University of Pennsylvania, gift of the First Unitarian Church, Rochester, NY).

> inherent "squareness" of the building. . . . We would like to make a fresh approach and submit drawings of a more flexible and less formal structure to suit the site.[50]

A conflict had arisen from contradicting requirements of budget and space. Upon seeing the revisions, the committee may have realized the futility of further pursuing the first scheme. Kahn's original concept, praised by the committee, still represented a shared vision, but needed to be worked out as a fresh design proposal.

In the third letter, dated March 6, 1960, G.R. Williams reminded Kahn of the need for an entirely new concept and that the first proposal and its modifications were not satisfactory. He urged Kahn to visit Rochester so that they could converge on a solution and "discuss with" them "how these requirements might be incorporated in a concept" that they "could accept."[51]

Kahn's Final Solution

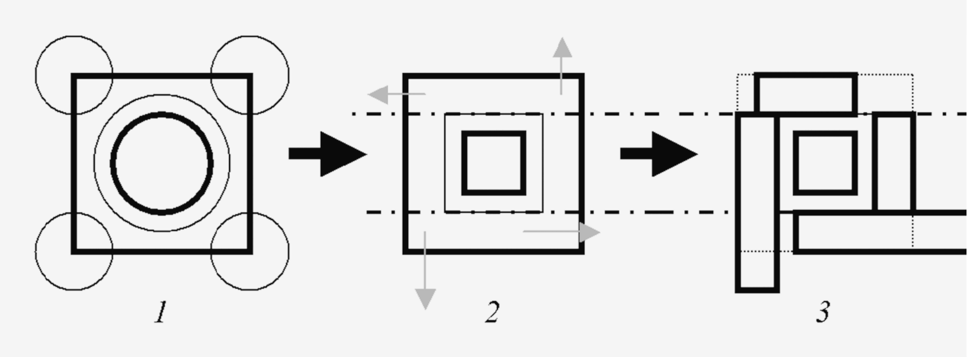
In response to the pressures, Kahn considered the congregation's preferred scheme — a sanctuary and an attached school building — yet dismissed it after a brief period of examination.[52] After this, Kahn found a solution to make his original concept less rigid.

In successive schemes, Kahn made changes to the form of the sanctuary and to the arrangement of other facilities. The sanctuary became longitudinal instead of square, yet the major change was in the treatment of other facilities, such as classrooms, offices, kitchen, library, and workroom, which Kahn grouped into larger parts and moved around until achieving a satisfactory solution. This allowed Kahn to avoid the problem of wasted corner areas and facilitated the composition of the smaller units in relation to the sanctuary.

The application of a second and new ordering device — fragmentation and grouping of rooms — enabled the final scheme (Figure 4). In Figure 5, we compare Kahn's first design to the final scheme to illustrate their relationship. Diagram 1 is a representation of Kahn's first design proposal. Diagram 3 represents the final design. In Diagrams 1 and 3, the concentric succession of spaces is evident, which demonstrates their continuity. In this sense, Kahn could be seen as developing a single design concept throughout the design. The second scheme, however, represents the application of the second ordering device (Diagram 2). Based on this observation, we claim that, after his first proposal was rejected by the committee, Kahn modified his original "Form" concept to meet both the client's requirements for flexibility and efficiency and his own design preference for a unified building.

Discussion and Conclusion

The First Unitarian Church project is often viewed as an example of how a great architect can create a masterpiece. It can also be viewed as a story of how information, constraints, shared meanings, and



5. Diagrammatic representation of Kahn's design process. Diagram 1 is a diagrammatic representation of Kahn's first scheme, in which the corners and the leftover spaces between the inner circle and the outer square are a problem. Diagram 2 represents the fragmentation of the surrounding rooms. Diagram 3 shows the result of the transformation.

commitments are developed and changed through interaction between clients and architect. The congregation's willingness to face disagreement — initially among themselves and eventually with the architect — led to a durable shared commitment that sustained them through a long process.

The client conducted a questionnaire, reviewed available sites, and provided the results to the architect. Yet, even at the outset, the client went beyond normal fact gathering. The questionnaire not only surveyed routine functional requirements but addressed a range of more engaging and more important issues, such as the congregation's view of religion and its desires for a building supportive of the community. Kahn shared a similar concern of community building with the congregation. His writings and projects starting from the 1940s reveal the importance of community and public sphere over the individual.[53]

Kahn's concept, along with the client's initial documents, other exemplar buildings, and ongoing communication helped form a commonly understood "design space" that facilitated communication among the congregation and with Kahn. This apparently functioned well even during times of disagreement.

The FUC project suggests that motivated clients can play equally important roles in architecture by illustrating the differing and complimentary expertise of client and architect. In this sense, this project represents neither the model of client as source of information or client as designer.

In *Excellence by Design*, Horgen et al. differentiate three professional approaches: technical-rational, participatory, and codesign. In the technical-rational approach, information flow is unidirectional, passed from occupants to designers to managers. In the participatory approach, the designer is in interaction with the occupants, yet the occupants are still deprived of contributing to the decision-making process. In co-design, the designer encourages the stakeholders to sustain a collaborative design process. The designer is not the only expert in this approach but shares expertise with occupants and decision-makers.[54] In the FUC project, the committee respected Kahn's expertise in design, yet they provided crucial comments, information, and contributions. Their constant feedback is part of the design if design is to mean more than just "form giving" and finalizing drawings. Here, the client established a crucial role through expertise and forthrightness, although Kahn himself did not encourage such an interaction. The design evolved in an interactive process during which programmatic requirements and design specifications co-evolved by the client's and the architect's contributions. This is illustrated in Kahn's conceptual diagram, which is a programmatic interpretation as well as a design solution, and in the committees' effort to improve the design by providing either further information or by criticisms and suggestions.

Excellence by Design calls for development and acknowledgment of an alternative conception of architecture that Horgen et al. term as *process architecture*:

> Process architecture does not approach its final destination in a linear path of logical steps. Rather, it triangulates between many shifting reference points, most of which are clouded in uncertainty and complexity. It anticipates surprises, dangers, and opportunities at each step, and even seeks these out as constructive influences.[55]

An interactive relation between programming and design can be more feasibly sustained in process architecture rather than in a technical-rational approach. The separation of programming from design exacerbates the continued shrinkage of the profession: programming is assigned to non-architect experts, and architects retreat once again to only holding the high ground of design. In a more fundamental sense, this separation contributes to the sense that architecture is increasingly irrelevant to everyday life. In their book *Placemaking,* Lynda Schneekloth and Robert Shibley argue that:

> In most industrialized countries, placemaking has been assigned to and appropriated by design-related professionals and academics who claim expert status regarding the knowledge of making places. Such appropriation ultimately disempowers others because it denies the potential for people to take control over events and circumstances that take place in their lives.[56]

The First Unitarian Church project shows that a design process that combined methodological rigor with a willingness to confront conflict and ambiguity, renewed the community, reinforced the power of architecture, and created a successful building, notwithstanding the strained relationship between the client and Kahn. The congregation with its several committees and Kahn succeeded in converting tense moments into potentials not only for design resolution but also innovation. This process brings interesting insights into our understanding of conflicts between clients and architects and how to use them constructively and of the interaction of programming and design.

Acknowledgments

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Notes

1. William Peña, *Problem Seeking: An Architectural Programming Primer* (Boston: Cahners Books International, 1977), p. 21.
2. Ibid., p. 20.
3. Turid H. Horgen, Michael L. Joroff, William L. Porter, and Donald A. Schön, *Excellence by Design: Transforming Workplace and Work Practice* (New York: John Wiley and Sons, 1999), p. 39.
4. For a critical overview of architectural education and practice, see Ashraf Salama, *New Trends in Architectural Education: Designing the Design Studio* (Raleigh, NC: Tailored & Unlimited Potential Publishing, 1995).
5. For Kahn's account of the design process, see Louis Kahn, "On Form and Design," *JAE* 15/3 (1960): 62–65. Louis Kahn, "Kahn," *Perspecta* 7 (1961): 9–28. Louis Kahn, "A Statement," in Alessandra Latour, *Louis I. Kahn: Writings, Lectures, Interviews* (New York: Rizzoli, 1991), pp. 145–152.
6. For an exposition of Kahn's account and its criticism, see Robin B. Williams, "First Unitarian Church and School," in D.B. Brownlee and D.G. Delong, eds., *Louis I. Kahn: In the Realm of Architecture* (New York: Rizzoli, 1991), pp. 325–348.
7. Louis Kahn, "New Frontiers in Architecture: CIAM in Otterlo 1959," in Latour, *Louis I. Kahn*, pp. 84–85.
8. Kahn, "A Statement," p. 152.
9. See Kahn, "New Frontiers," p. 83. For Kahn's ideas on institutions, see Sarah Ksiazek, "Architectural Culture in the Fifties: Louis Kahn and the National Assembly Complex in Dhaka," *Journal of the Society of Architectural Historians* 52/4 (1993): 416–435.
10. John Summerson, "The Case for a Theory of Modern Architecture," in Joan Ockman and Edward Eigen, eds., *Architecture Culture, 1943–1968: A Documentary Anthology* (New York: Columbia University Graduate School of Architecture Planning and Preservation, 1993), p. 233.
11. Ibid.
12. Ibid., pp. 234–235.
13. Kahn, "New Frontiers," p. 83.
14. Louis Kahn, "The Nature of Nature," in Latour, *Louis I. Kahn*, p. 141.
15. The documents are:

William F. Neuman, report, *What Can We Do about Growth*, in "Building Committee Correspondence — Rochester, April 1959 through December 1960," Box LIK 15, Louis I. Kahn Collection, University of Pennsylvania and Pennsylvania Historical and Museum Commission, Philadelphia (abbreviated as Kahn Collection);
report, *Fact-Finding Report on Four Courses of Action*, Kahn Collection;
report, *Report to the Congregation from the Fact-Finding Committee on Church Architecture*, Kahn Collection;
report, *Profile of the New Unitarian Church Building*, Kahn Collection;
and
report, *Recommendations of Building Committee*, Kahn Collection.

16. Cassette recording, "Architectural Search and Building Committee Reminiscences," Jan. 28, 1979, tape 1, side 1 (abbreviated as "Reminiscences").
17. Report, *Fact-Finding Report on Four Courses of Action*.
18. *Fact-Finding*, Kahn Collection. There are no specific dates on the different reports prepared for each course of action, yet the report of Harwood B. Dryer, the architect member of the committee who prepared the three enlargement schemes, is dated Nov. 12, 1958. It is reasonable to think that the final report was ready sometimes in November 1958.
19. "Course of Action 3," in *Fact-Finding*, p. 1.
20. Ibid., p. 2.
21. Ibid.
22. Questionnaire, *Questionnaire on the New Church Building*, Kahn Collection.
23. The adjectives are given in the rank order ranging from 60 percent to 36 percent.
24. The adjectives are given in the rank order ranging from 68 percent to 34 percent.
25. *Report to the Congregation*, p. 4.
26. *Profile of the New Unitarian Church Building*, Kahn Collection.
27. Ibid.
28. "Reminiscences," Jan. 28, 1979, tape 1, side 1. The details of the architect selection process are based on the tapes called "Reminiscences" unless otherwise stated.
29. Ibid.
30. Letter, Neuman.
31. Letter, Helen R. Williams to Kahn, Feb. 28, 1960, Kahn Collection.
32. Telegraph, Kahn to M. Von Horn, June 15, 1961, Kahn Collection.
33. Letter, M. Von Horn to Kahn, Apr. 2, 1960, Kahn Collection.
34. Letter, M. Von Horn to Kahn, July 8, 1960, Kahn Collection.
35. Letter, M. Von Horn to Kahn, Feb. 17, 1961, Kahn Collection.
36. "Reminiscences," tape I.
37. Letter, H. Williams to the Board of Trustees, Jan. 30, 1961.
38. Letter, H. Williams to the Board of Trustees, Feb. 28, 1961.
39. "Reminiscences," tape I.
40. For an another example of Kahn's interaction with his client, see Hayden Gallery, MIT Committee on the Visual Arts, and Massachusetts Institute of Technology, School of Architecture and Planning, "Louis I. Kahn: Yale Center for British Art, Yale University, New Haven, Connecticut," in *Processes in Architecture: A Documentation of Six Examples: Hayden Gallery, Massachusetts Institute of Technology, Cambridge, Massachusetts, May 18 through June 24, 1979* (Cambridge, MA: MIT School of Architecture and Planning, 1979), pp. 29–54.
41. Ibid.
42. Louis Kahn, "Louis I. Kahn," in Latour, *Louis I. Kahn* (New York: Rizzoli, 1991), p. 133.
43. Williams, "First Unitarian Church and School," p. 340.
44. Ibid., p. 340.
45. Kahn, "Louis I. Kahn," p. 134.
46. "Reminiscences," tape I.
47. Ibid.
48. Kahn, "New Frontiers," p. 86.
49. Letter, Helen R. Williams, Jan. 8, 1960.
50. Letter, G.R. Williams, Feb. 28, 1960.
51. Letter, G.R. Williams, Mar. 6, 1960.
52. Kahn, "On Form and Design."
53. For a detailed account of Kahn's view on community, see Ksiazek, "Architectural Culture," and Sarah Williams Ksiazek, "Critiques of Liberal Individualism: Louis Kahn's Civic Projects, 1947–57." *Assemblage* 31 (1996): [56]–79.
54. Horgen et al., *Excellence by Design*, pp. 39–40.
55. Ibid., p. 38.
56. Lynda H. Schneekloth and Robert G. Shibley, *Placemaking: The Art and Practice of Building Communities* (New York: John Wiley and Sons, 1995), p. 2.