

ARCHITECTURAL DRAWINGS:
SURROGATES FOR PROPOSED ENVIRONMENTS

by

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ACKNOWLEDGMENTS

Some years ago Arthur T. Brown, F.A.I.A., said to me that how I deal with people is more important than any building I would design. Hopefully this study reflects the belief of that fine architect.

This study attempts to combine a few ideas related to architecture and psychology to clarify the role of drawings in the architect-client relationship during the design phase of a project. I thank Professor W. Kirby Lockard, an architect, and Dr. William H. Ittelson, a psychologist, for their help.

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ABSTRACT

New architectural environments are designed through a process of verbal interchange between an architect and client in which both come to adopt new courses of action that the environment will accommodate. During this process, the architect employs various types of architectural drawings which act as surrogates for the proposed environment. These drawings are customarily presented in a sequence from the relatively abstract to the more representational. Studies by psychologists have found that as pictorial simulations of actual environments become more realistic, their effectiveness for facilitating judgments about those environments increases. Interviews with architects, however, reveal that in the architect-client dialogue, as drawings become more realistic, their ability to elicit meaningful discussion may actually become less. The usefulness of drawings appears to depend on: 1) when they are introduced by the architect in the design process, and 2) the client's ability to understand the drawings. This study suggests the need to regard architectural drawings not as independent objects, but as integral parts of a communication process.

CHAPTER 1

INTRODUCTION

Architectural drawings—diagrams, plans, sections, elevations, and perspective renderings—are pictorial representations which graphically portray selected features of a proposed architectural environment and are used by an architect to present information about that environment to a client. While these drawings are usually seen as transmitting this kind of information, this study deals with the role of drawings in the dialogue between the architect and client during the design phase of a project. A transactional model of innovation as communication developed by Allan Wallis (1976) is presented as an appropriate frame of reference for this study. In this model, the characteristics of the communicants and messages are seen as mutually dependent elements of a system. The identity of these elements exist, and can only be known, in relationship with one another.

Consider two children playing with a doll house. Each child has his own idea of what make-believe events should be happening. It is by sharing their imaginative schemes that ideas about how the house should be lived in are acted out. The children move furniture around in order to set the stage for the activities of the dolls. As the children change the doll house to accommodate new actions, they are inventing new ideas about living. Perhaps someday these ideas, as part of their experiences, will influence how they live.

These children illustrate the universality of Wallis's (1976) model, where the communicants are adopters and the message is the innovative item. Wallis states: "An innovation as a course of action, is initially disequilibrating, while the process of innovation as a whole is an effort to reestablish equilibrium amongst the elements of intentional action" (p. 40). In the process of innovation, the innovative item is first seen as new and ambiguous. To eliminate the ambiguity created by the innovation, the adopters, through discussion, assign new meanings and values that define the consequences of using the innovative item. This definition of the consequences of new courses of action may require that established elements within the adopter's system of experiences be altered. Wallis concludes: "Thus, over time, the acceptance of an innovation as a meaningful course of action may alter the perception of all previously established courses of action" (p. 41). In a transactional model of innovation as communication, the innovative item changes in meaning as it is assimilated into the adopter's system of experiences, and these systems also change through the assimilation.

The obvious, but sometimes overlooked, perception that change is a primary goal of architectural design is noted by William Ittelson (1975): "The goal of environmental design in some sense can be considered as the construction of environments which will produce conditions different from those which led to the design in the first place. . . ." (p. 186). During the design process, both the architect and the client

adopt ideas for a proposed environment that are intended to define new courses of action in that environment. According to Wallis's (1976) model, the architect and client are the communicants and the proposed environment is the innovation. The architect and client present ideas concerning the projected uses of the environment that may seem different and possibly ambiguous to the other's concept of the proposed environment. Through discussion, each assigns new meanings and values to these ideas as accommodations are attempted and agreements made. Acceptance of the other's ideas may cause either the architect or client to alter his perception of previously held ideas. As in the transactional model of innovation, the design of the new environment changes during architect-client dialogue as new ideas for that environment are adopted.

It is the contention here that drawings employed by an architect during the design process are integrally associated with the architect-client interchange and therefore cannot be isolated from that process for study and evaluation. Drawings act as surrogates for a proposed architectural environment; they allow meanings and values to be assigned to that environment without it being constructed. As these meanings and values change through the adoption process, the drawings change as well.

In the following Chapter 2, it is suggested that architectural drawings should not be evaluated as simulations of reality but as essential references in architect-client discussion. The role of drawings in the design process is then reviewed in Chapter 3. Interviews with

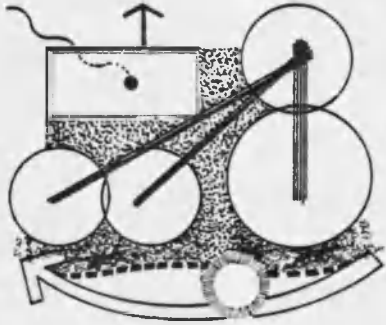
architects described in Chapter 4 reveal that the usefulness of drawings depends on when they are introduced in the design process and the client's ability to understand them. The role of drawings in an actual project is related in Chapter 5. Finally, in Chapter 6, the concepts of this study are summarized.

CHAPTER 2

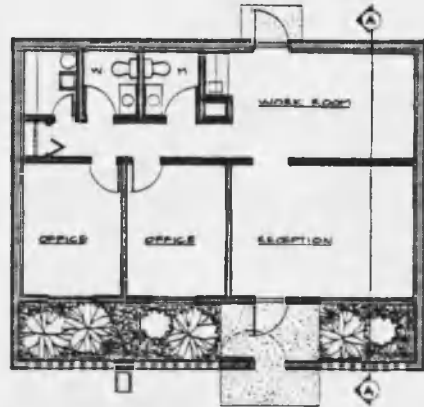
DRAWINGS AS SIMULATIONS OF REALITY

Diagrams, plans, sections, elevations, and perspective renderings are the types of drawings customarily employed by an architect in the design process to present features of a proposed architectural environment to a client. Diagrams are abstract drawings of lines and shapes of symbolic character which show spatial organization (Fig. 1a). These schematic drawings may also outline the pattern of circulation or the orientation of fixed and movable elements. Plans, sections, and elevations are drawings to scale (Fig. 1b, 1c, 1d). They are called orthographic projections because they show horizontal and vertical features in actual proportion and position. Perspective renderings are more realistic drawings which show a proposed environment as it may actually be seen in three-dimensional space (Fig. 1e). Perspectives of both exterior and interior views are images similar to photographs.

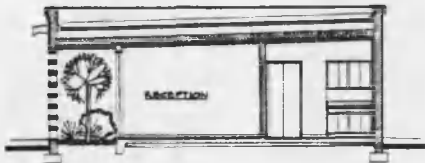
The study and evaluation of architectural drawings has generally focused on their adequacy as independent objects to simulate the real environment. While the ideal simulation is an exact duplicate of reality, in practice, simulations appear to portray a limited number of selected features of an environment, allowing the controlled study of those particular features. The specific application of a simulation



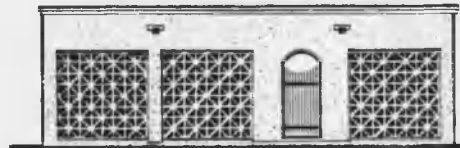
a. Diagram



b. Plan



c. Section



d. Elevation



e. Perspective Rendering

Figure 1. Types of Drawings.

therefore depends on the context in which it is employed. In this sense, both schematic diagrams and perspective renderings can be called simulations.

Research by psychologists has often gone to great length to determine which types of pictorial representations are best for presenting meaningful information about an environment. One comprehensive study by James Wynne (1977) exemplifies much of this research. The study compares subject responses to various simulations (floor plans, perspective drawings, color photographs, color slides, color movies) of period rooms at the Metropolitan Museum of Art in New York City with their experiences in the actual rooms. By using preference, recognition, and descriptive measures, he found that as the simulations became more abstract, their effectiveness for facilitating accurate judgments of environments was reduced. Wynne concludes that slides appear to be the most effective simulation, while perspective drawings and photographs "are surprisingly inadequate as simulations" (p. 32).

While under certain circumstances pictorial simulations may evoke the same responses as the actual environment, this characteristic of simulations is not relevant to the use of architectural drawings in the design process. First, the type of research described above treats the subjects as disinterested observers, a role which does not accurately reflect that of either the architect or the client, who are critically involved in change instead of static judgments. Perhaps more significantly, this research treats the environment as a display which

exists outside of the process by which it is being studied; it assumes that the environment is an object for the purpose of comparison. The design for a new architectural environment, on the other hand, is contingent on changes being made to define new courses of action in that environment.

Susanne Langer (1959) believes that drawings in general are visual forms that present various pictorial elements simultaneously—they illustrate static spatial relationships—while language, on the other hand, has the capability of presenting relationships successively. She explains that "The trick of naming relations instead of illustrating them gives language a tremendous scope; one word can thus take care of a situation that would require a whole sheet of drawings to depict it" (p. 235). She believes that the communication of causal connections, activities, time, and change are therefore better suited to language. Each of these is of vital interest to the architect and client, who, like the children in the doll house example, are concerned with the projected uses of the proposed environment; therefore, a verbal interchange appears to be the principal mode of communication between the architect and client during the design process, where ambiguities are resolved, accommodations hopefully aided, and assimilation ultimately achieved. The role of architectural drawings in this discursive exchange needs to be clarified.

Architectural drawings as surrogates for a proposed environment provide an essential reference by which adoption of that environment takes place. If language transactions are the primary mode of

interchange in the design process, then the utility of these drawings should be measured, not as simulations of reality, but by their ability to elicit meaningful discussion between the architect and client and to graphically summarize agreements that have been made.

Since the focus of discussion changes as the design becomes more definite, architectural drawings should be studied in terms of their appropriateness at various periods in the design process. If one drawing may elicit different discussions when presented at different times in the architect-client interchange, then a drawing presented at the wrong time may actually inhibit progress. For example, a perspective rendering presented at the beginning of the design process may cause the client to respond to details that the architect believes to be unimportant during the early period. Also, such a "realistic" drawing may create a sense that the design has been so fixed that the client would be apprehensive about suggesting changes and become resigned to accepting the design as is. At this stage, the mis-timing of the presentation of a drawing might lead to frustration for the architect and withdrawal from the process by the client.

It is suggested here that an inappropriate drawing may actually create an impediment to the adoption of a proposed environment. On the other hand, if the role of drawings as essential references in the architect-client dialogue was more clearly understood, the architect could knowledgeably assist the design process.

CHAPTER 3

DRAWINGS IN THE DESIGN PROCESS

A new architectural environment is traditionally thought of as the product of exchange between an architect and a client in which the client relates his needs for that environment to the architect, who in turn responds with specific design recommendations. The design process is often described as proceeding from an analysis stage to a synthesis stage. This process, however, is not entirely as deductive as implied.

Ittelson (1975) describes the architect, who "calls upon many sources of knowledge: his own personal intuitions and insights, a host of explicit and implicit social and cultural beliefs and mores, his own technical expertise acquired through years of living and working in the area of specialization" (p. 183) to deal with a client's needs. In the beginning of the design process, these needs may evoke a variety of images that are quite realistic (spatial organization and material finishes, for instance) because the design is meaningful to the architect when it follows certain precepts. Louis Kahn (Scully, 1962) discusses these precepts in terms of form—a harmony of systems, a sense of order. As one example, he describes the form of "House" as the abstract characteristic of spaces good to live in. The design of a house, on the other hand, is a conditional interpretation of these spaces. Kahn describes the design process in this way: "The client

for whom the house is designed states the areas he needs. The architect creates spaces out of those required needs. It may also be said that this house created for a particular family must have the character of being good for another. The design in this way reflects its trueness to Form" (Scully, 1962, p. 115). In this sense, the architect's conceptualization of a proposed environment may require assimilation of the client's needs within his principles of design and subjective intuition. Therefore, the architect, by his own inductive design methodology, introduces certain needs for the proposed environment.

In order for the design of any architectural environment to become more definite, some compromise of ideas presented by both the client and the architect is necessary. For example, the client may wish to have a room in which two different activities occur, activities that the architect believes are incompatible. Or the architect may desire some special acoustic materials that are in conflict with the client's image of style. As the architect and client discuss their ideas for the proposed environment intermittently throughout the design process, each assigns new meanings and values to these ideas as compromise is attempted. The architect assists this process by presenting problematical issues that focus the client's attention to specific questions. In the example above, the architect may suggest that the room could accommodate the two activities if the acoustic material he desires is incorporated in the construction. The scope of these issues would appear to become less during the course of the design process, where decisions

made later have less effect on previous decisions. Decisions concerning material finishes, for instance, supposedly made later in the design process would seem to have little effect on earlier decisions about room arrangement. As revealed above, however, the opposite may be true where material finishes had an influence on the consideration of room arrangement. This intuitional process, if communicable to the client at all, may leave him confused if not intimidated. The architect must therefore present the design of the proposed environment to the client in an orderly manner so that the client remains a truly active participant in the on-going interchange. Architectural drawings play an important role in this presentation.

The role of architectural drawings appears to be of three kinds. The architect presents features of the proposed architectural environment to:

1. gain information from the client,
2. focus on problematical issues, and
3. confirm decisions no longer open to question.

In the beginning of the design process, the architect requires information to identify or clarify the client's needs; drawings present settings where this information can be easily elicited. Later, the architect employs drawings to present problematical issues in order to bring about compromise; in fact, some issues may be presented to the client as being problematical, although not so in the architect's mind, in an

attempt to convince the client of the value of the architect's ideas. Just as importantly, the client may respond to these issues in such a way as to alter the architect's perception of the client's ideas. During this stage, the amount of information required by the architect becomes less as decisions are made and incorporated in subsequent drawings. At the end of the design process, no more information is required by the architect, issues once seen as problematical are no longer so, and almost all decisions have been made.

CHAPTER 4

INTERVIEWS WITH ARCHITECTS

In order to find out how architects perceived the role of architectural drawings in the design process, informal, open-ended interviews were conducted with twelve architects practicing in Tucson, Arizona. The architects were chosen to represent a cross section of the profession: younger and older members, individual practitioners and partners in larger firms. Each interview was held in the architect's office and lasted about one hour.

On the basis of the reasoning presented in the previous chapters, one would expect the interviews to reveal the following:

1. The architects would describe the presentation of the design process as occurring in an orderly sequence.
2. They would state that different drawings were presented at different times in that process.
3. The architects would relate that the usefulness of a particular drawing depended on its ability to affect discussion with the client.

The interviews started by having the architects briefly describe the usual process by which they presented the design of a project to the client and the drawings they used in that presentation. The intention of this description was to find out whether or not the presentation

occurred sequentially and if different drawings were used at different times. When an architect described a particular drawing, he was asked why that drawing was effective at that time. He was also asked why either a more abstract or more realistic drawing could not be used as well. The purpose of these questions was to find out if a particular drawing influenced the nature of discussion that takes place. After the architects completed their description of the design process, they were asked what might cause them to change this process and the associated drawings. This question was intended to possibly bring out other influences on the use of drawings.

While it was difficult to determine the extent to which the architects were able to see themselves using drawings, the assurance they expressed in the reasons for using various types of drawings was surprising. All but one architect went to the extent of showing actual drawings to substantiate their beliefs. Due to the spontaneous character of the interviews, it was not possible to formally compare the architects' statements. It can be concluded, although, that most of the expected answers were given. These answers, however, probably represented how each architect thought he would like to present the design process and not necessarily how it was actually presented. Finally, the interviews brought out one important influence on the use of drawings in the design process that was not anticipated—the client's ability to understand the drawings. Appendix A documents some of the statements of the architects interviewed.

A Sequential Design Process

Every architect described the presentation of the design process as proceeding from the abstract to the concrete according to the phases of program, schematic design, design development, and construction documents outlined in contracts for professional architectural service. At different periods in the design process, different drawings were described. Most of the architects started by preparing schematic diagrams that showed spatial arrangement established in the program. One architect stated that diagrams were good at this time because they were less intimidating than drawings that showed architectural features. Next the architects prepared plans, sections, and elevations at a small scale to allow the client to see the overall organization of the design in one view—or, as one architect related, to see the atmosphere of the activities involved. Another architect stated that single line drawings were successful because they were easy to follow. Perspectives of exterior and interior views presented at this time tended to be rough sketches, often with a part of the design deliberately exaggerated to clarify a particular relationship. Later, drawings which showed a lot more detail were prepared by the architects. At this stage, parts of the design were drawn at a larger scale to show materials, finishes, and equipment. This time is when one architect said hopefully all questions are answered. Finally, some architects presented the construction drawings to the client in order to verify decisions previously made, while other architects did not because they thought the amount of technical information would only confuse the client.

Focus for Discussion

Although the architects described a variety of drawing techniques, all of them related a similar belief that drawings did affect the nature of discussion that takes place. Every architect expressed the belief that a realistic pictorial representation of the design presented to the client too early in the design process was harmful to architect-client dialogue because it focused the client's attention on aspects of the design that the architect thought were not important at that time. One architect called it suicide. Another architect felt that a detailed plan drawn at the scale of $1/4"=1'-0"$ presented at the schematic design phase gave the client the impression that he was trapped and his participation was not welcomed. On the other hand, an architect stated that he started out believing that schematics should be bubble diagrams but later tighten down to get more information from the client. Finally, as one architect related, drawings presented at the end of the design development phase that were too abstract left much uncovered ground and possible unpleasant surprises for the client. The point where a particular drawing was either too realistic or not realistic enough to elicit useful discussion at a particular stage in the design process was not explicitly defined.

To the architects, an important use of architectural drawings appeared to be to focus the client's attention to areas of concern where choices had to be made at a particular time in the design process. One architect stated that in the design of a house, 20,000 decisions had

to be made, but if all these decisions were shown to the client, he would not want to study the drawings. Another architect stated that there was no need to completely educate a client about the design, he did not expect it, but the client should be led as quickly as possible to the scope of the project. From these types of drawings, an architect related, the client can feel the pride of being involved in making the building because he was a part of the cutting process by which it was designed.

Influences on Drawings

Most of the architects prefaced their descriptions of the presentation of the design process by stating that they tried to fit the presentation to the project and the client. While it was expected that the nature of the project (complexity, for example) would have an influence on the usefulness of the drawings presented, this was not brought out in the interviews. To the architects, the important influence on a drawing's usefulness was the client's ability to understand the drawings in the first place. This influence had not been anticipated prior to the interviews. One architect stated that sometimes more drawings were required for a house where the client was not accustomed to interpreting drawings than for a large public building where the client had past experience with drawings. Also, more detailed drawings could be presented earlier to the client who had more experience with drawings. Another architect related that a client who had

no experience with drawings liked a little picture to visualize the design better than a working drawing.

The interviews appear to show that the usefulness of architectural drawings in the architect-client interchange depends on: 1) when they are introduced by the architect in the design process, and 2) the client's ability to understand the drawings. These two influences on drawings are also mentioned by William Kirby Lockard (1974) as important variables in the preparation and presentation of Design Drawings. He suggests that "the perception of a drawing will vary depending on how many similar drawings have been perceived previously. . ." (p. 51). The client familiar with drawings will look beyond the drawing as an object to the design content it presents. Similarly, he suggests that a "transparent" drawing form such as a rough design sketch will allow the client to see through the drawing technique to "the experiential qualities of the design itself" (p. 260). To Lockard, an effective drawing emphasizes "solutions to the client's particular concerns, the ideas he has contributed, and the esthetic preferences he has expressed which are acceptable to the designer" (p. 262). The appropriate form of a drawing appears to be directly related to the stage in the design process when it is presented to the client.

CHAPTER 5

AN OFFICE ADDITION

The following account of the use of architectural drawings in an actual project may help to illustrate their role in the design process. The project consisted of a second floor addition to a triangular shaped building in the downtown area of Tucson, Arizona. The proposed use of the addition was offices for a law firm of three partners.

During one of the first meetings between the architect and the lawyers, the lawyer most interested in the project stated that he envisioned the addition as penthouse suites extending off a roof garden. As the lawyer described his ideas, the architect drew a small sketch that located the garden in the proposed setting (Fig. 2). When the architect described his sketch to the lawyer, the lawyer confirmed that that was what he had in mind. The understanding reached as a result of this first sketch set forth the overall concept of the project. Also, this sketch established the role of drawings as references in the architect-client dialogue.

From additional information presented by the lawyers, a first schematic floor plan was prepared at $1/8"=1'-0"$ scale (Fig. 3). When this drawing was shown to the lawyers, they asked questions as to what the drawing meant. From the discussion that resulted, many of the interactions that occurred in the operation of the law firm were made

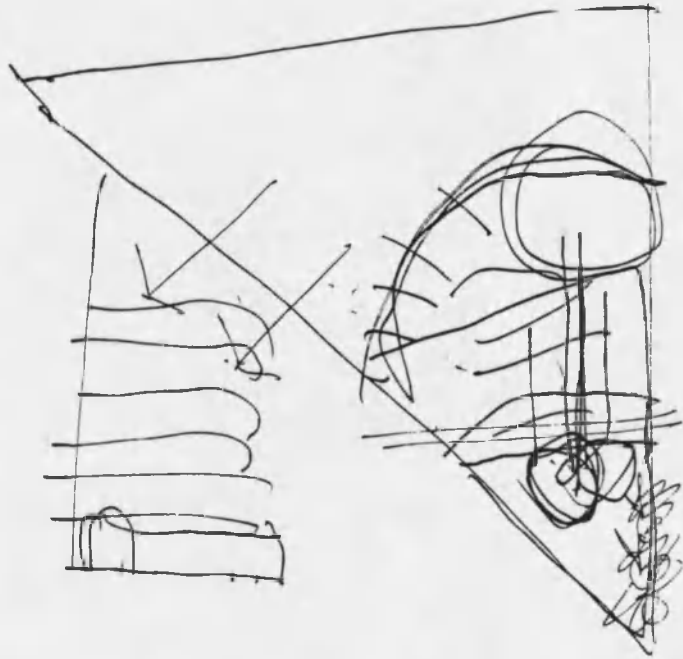
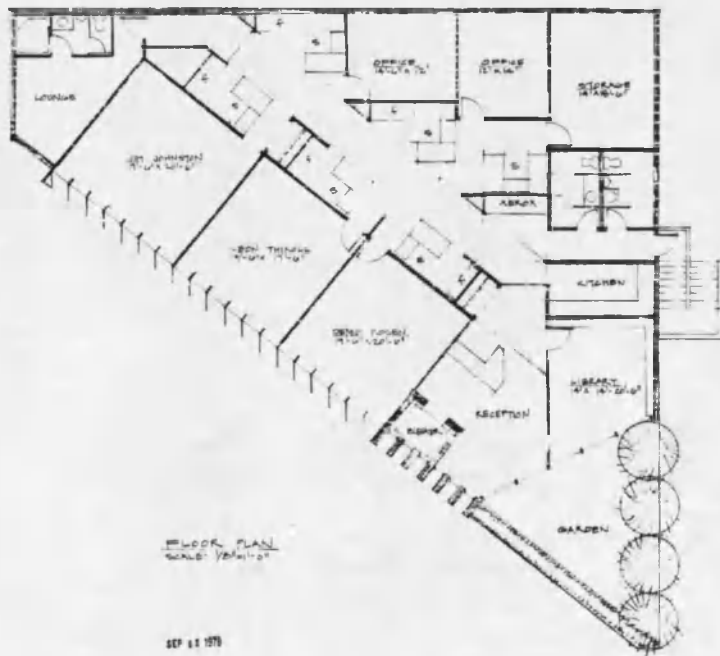


Figure 2. Concept Sketch.



FLOOR PLAN
SCALE: 1/8" = 1'-0"

SEP 11 1973

Figure 3. First Schematic Plan.

evident. For example, the secretaries, shown in a large central area in the schematic plan, often made confidential telephone calls which required that they be located in more private alcoves.

From this discussion, the arrangement of rooms shown in the first plan was changed. A second schematic plan at the same scale was then presented (Fig. 4). At this time, the architect related that the building code required a second exit stair. The lawyers objected to the amount of floor area the associated exit corridor consumed. Later when the use of the dead file storage area was described in more detail, it was discovered that the exit corridor could be widened slightly to accommodate the dead files along one wall. This decision was marked on the drawing along with other decisions.

Next the architect prepared a third schematic floor plan at the same scale to substantiate the changes made to the previous plan (Fig. 5). The similarity in character of the various schematic plans facilitated the lawyers' ability to understand the drawings as documentation of the progress in the dialogue. When the third plan was presented to the lawyers, they related that they thought the project was heading in the right direction. The architect stated that now was the time to see what the addition would look like and that he would prepare drawings showing the elevations. The focus of discussion then changed to the visual appearance of the project.

At the subsequent meeting, the architect presented more detailed design development drawings of sections and elevations as well

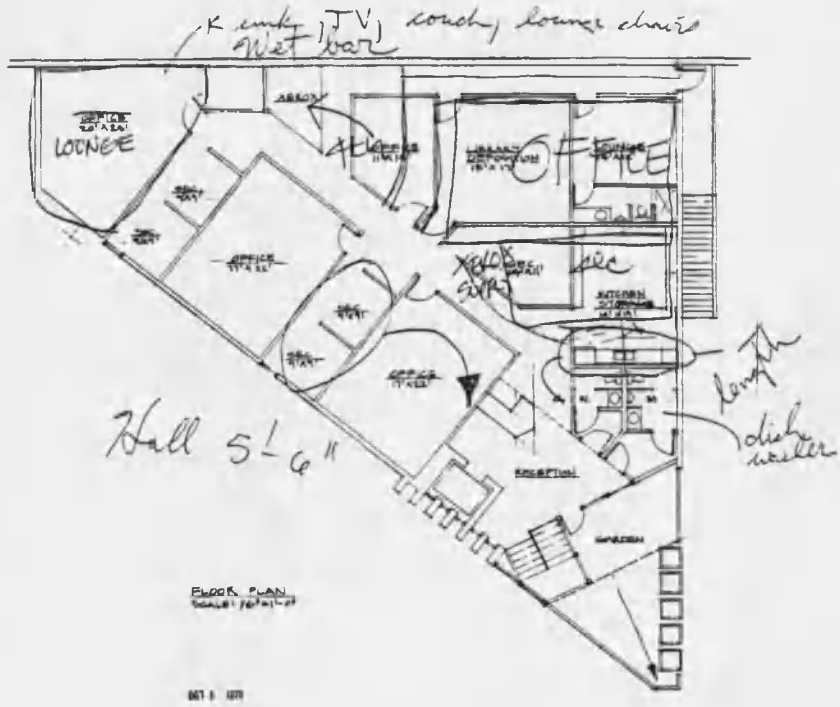


Figure 4. Second Schematic Plan.



Figure 5. Third Schematic Plan.

as plan at the larger scale of $1/4"=1'-0"$ (Figs. 6, 7, 8). While the lawyers recognized the plan drawn at the larger scale, they asked to have the sections and elevations explained to them. At this time, the architect had intended to use the drawings to elicit additional information. The lawyers, however, interpreted the drawings as confirmation of past discussion. A few days after this meeting, a perspective rendering of an exterior view of the addition was delivered to the lawyers (Fig. 9). At the following meeting, the lawyers expressed their excitement for the project. The discussion that ensued focused on the procedures necessary to have the project constructed.

While it appeared to the lawyers that their ideas had been realized, certain elements of the design had not been resolved for the architect. The lawyers indicated some dismay at the architect's later presentation of a rough sketch of an alternative structural system for the roof that changed the addition's appearance (Fig. 10). In retrospect, the architect had presented the design process in a sequential manner in which the design of the proposed office addition had become more definite. The introduction of the new information concerning the roof structure at that late period may have caused a sense of uncertainty about that process for the lawyers. The disposition of the lawyers to respond to the architect's drawing seems to have been contingent on their assumption that the architect had considered all aspects of the design at that time since they were not aware of those aspects still open to question. This project reveals that, while the architect and the client desire an orderly design process, either the

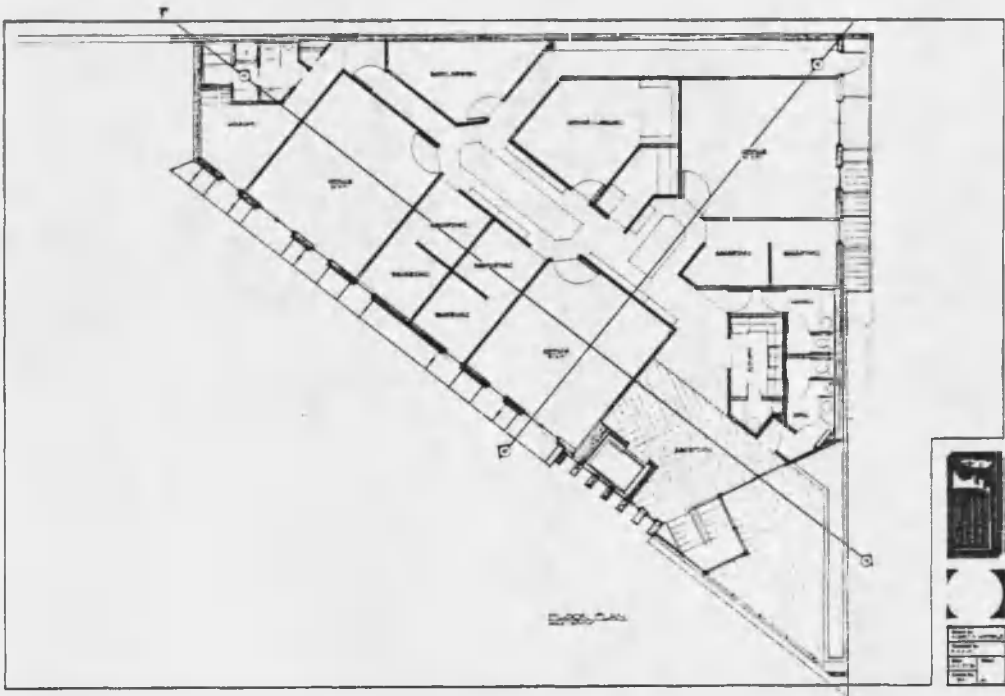


Figure 6. Design Development Plan.

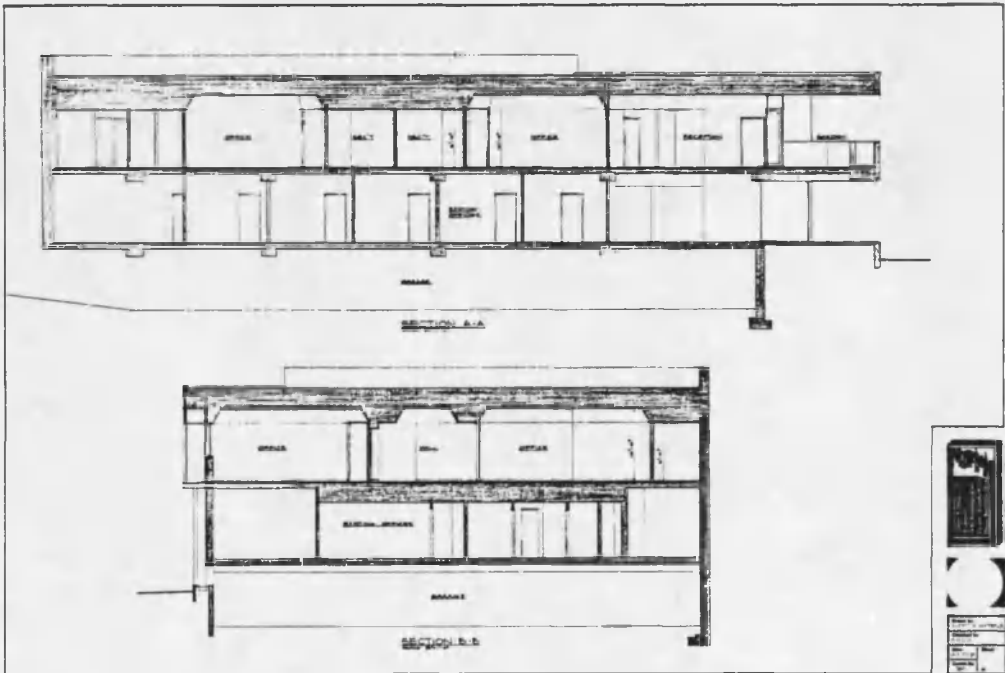


Figure 7. Design Development Sections.

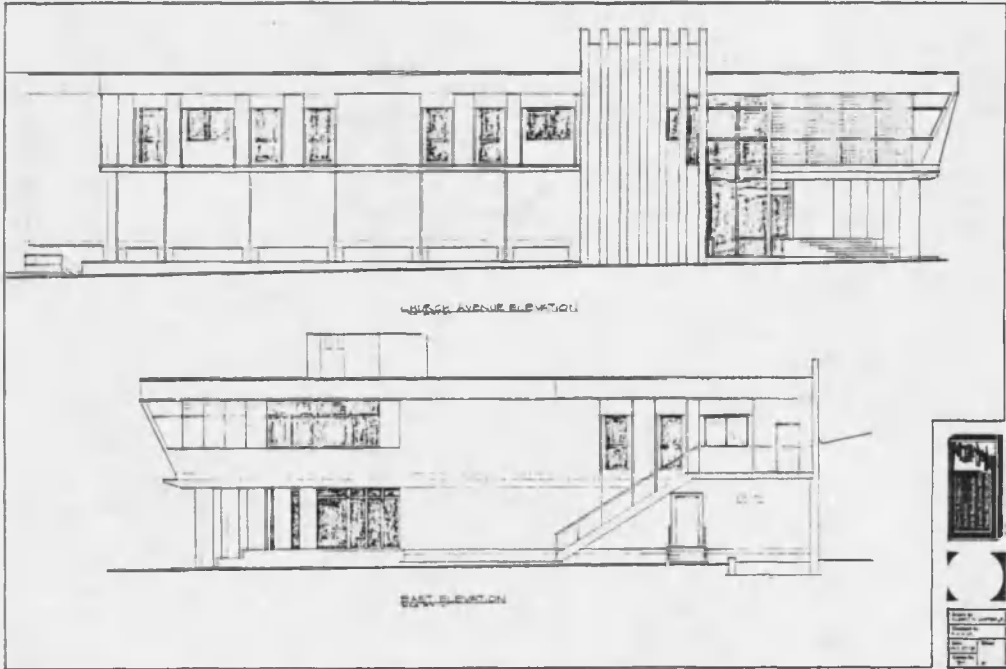
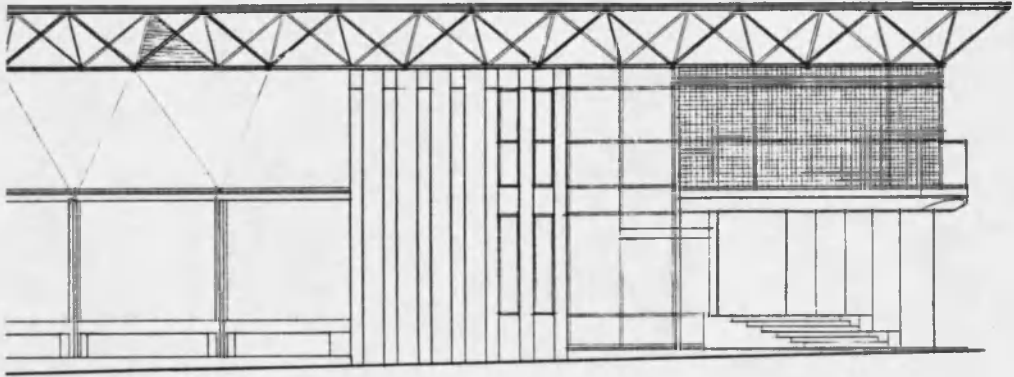


Figure 8. Design Development Elevations.



Figure 9. Exterior Perspective Rendering.



CHURCH AVENUE ELEVATION

Figure 10. Sketch of Alternative Roof System.

architect or the client may have to "back-track" in order to reassign new meanings and values to previously established ideas that he believes are no longer relevant. Although architectural drawings substantiate an orderly design process, they may actually inhibit the ability of that process to accommodate later adjustment in the architect-client dialogue.

CHAPTER 6

CONCLUSION

Architectural drawings act as surrogates for a proposed architectural environment: they provide an essential reference by which the design of that environment takes place. Drawings focus architect-client interchange on aspects of the design where decisions are required in order for the design to become more definite. Decisions are made as the architect and client assign new meanings and values to ideas for projected uses of that environment. Just as individuals adopt innovations, the architect and client come to adopt the design for the proposed environment because it becomes meaningful to them through changing ideas.

The usefulness of a drawing in the architect-client dialogue depends on when it is introduced by the architect in the design process. A drawing that is too realistic at a particular time, for instance, may elicit discussion that impedes the adoption of new ideas. A drawing's usefulness also depends on the ability of the client to understand the drawing. To a certain extent, the client comes to understand the drawings presented by the architect by seeing them change as his ideas change. In this sense, the client also "adopts" the drawings because they become meaningful to him through their use.

The architect presents the design process to the client as occurring sequentially from the abstract to the concrete, from the

general to the specific. Decisions concerning spatial organization, for example, are customarily made prior to decisions concerning material finishes. This presentation of an orderly design process allows the client to be an active participant in that process. If it is assumed that the design process proceeds sequentially where decisions made later have less effect on the design than previous decisions, then it would appear that decisions having the greatest influence on the design are made in the beginning when both the architect and client least understand the other's ideas for the proposed environment. Also these decisions are made at a time when the client understands the drawings the least. It is at the early stage, however, that the client must rely on the architect for his judgment to establish the framework within which the subsequent architect-client dialogue takes place. This structure of communication is one of the most significant contributions an architect makes in the design of a proposed environment.

This study suggests that architectural drawings are part of a communication process that has an important influence on the design of an architectural environment. The relationship between the architect-client dialogue and the design process has not been adequately studied. It appears that the architect-client dialogue is based to a certain extent on assumptions concerning the role of the communicants in the design process. The architect assumes that the client is able to clearly relate his needs for the proposed environment to the architect. Likewise, the client assumes that the architect is able to respond to those needs.

These assumptions are not necessarily true; the client may not understand his needs and the architect may not know how to respond to them. It is through discussion that the false assumptions are dispelled as the actual role of the architect and client are established. Further investigation of the design process as a communication process should address these issues.

APPENDIX A

ARCHITECTS' STATEMENTS

The following statements document selected comments of the architects interviewed in this study.

ARCHITECT NO. 1: older architect, two principal firm, interviewed 9-25-78:

The type of drawing depends on the client; some like a little picture to visualize the design better than a working drawing. Clients have a better understanding of the design at small scale; you may spoil the design if too much detail is shown. If a machine produced a photograph of the design, it would be no good because it would lose human interest. To get a wonderful design, you have to keep it abstract as long as possible. There are 20,000 decisions to be made in the design of a house, but if all these decisions were shown to the client, he would not even want to study the drawings. Don't show working drawings to the client unless they will pay you extra to change them.

ARCHITECT NO. 2: middle-aged architect, one principal firm, interviewed 9-27-78:

In the beginning you deliberately try to stay away from architectural features. Better client involvement is achieved with slide

presentations or program diagrams and cartoons. The scale of schematic drawings depends on the size of the project; it has to be small enough to get exterior relationships. With a scale of $1/4'' = 1'-0''$, the client cannot get the atmosphere of the activities in one view. Photographic images would not be good in the beginning because the client has to grow with the design process. The client at the end of the job should be able to say he had a part in the building design—pride in involvement.

ARCHITECT NO. 3: middle-aged architect, three principal firm, interviewed 9-29-78:

Because all jobs are different, drawings must be tailored to the job and client. The architect should interpret the drawings for the client. The ability of an architect to communicate relies on a combination of verbal and visual skills. You can hit a client with too much detail in the schematic design phase—the closer to realism is fine but it may freeze the design too soon. Schematics should be informal so the client doesn't get the feeling that everything is fixed. Some clients don't understand fully what is being proposed because they are used to selecting off the shelf.

ARCHITECT NO. 4: middle-aged architect, three principal firm, interviewed 9-26-78:

A client is often intimidated by grandiose drawings. Too much detail in the beginning would cause reverse thinking. The client needs to know the basic organization (circulation) of the design.

ARCHITECT NO. 5: older architect, one principal firm, interviewed
9-25-78:

So many people cannot visualize a building. If you show too much detail in the beginning, you keep the guy from looking at the big idea. An architect should never do a drawing to show a client at 1/4"=1'-0" scale because the eye cannot see the entire plan. Hand drawn sketches are better than photographic perspectives because they are softer and more romantic. You don't want to tie the design down too early and give the client a grab bag of dreams you cannot deliver. You don't know the client in the beginning. Leave yourself room to move and adapt to the situation the way it really wants to be.

ARCHITECT NO. 6: middle-aged architect, two principal firm, interviewed 9-27-78:

There is no prescribed way of presenting drawings but we try to fit the presentation to the job and client. Presenting the "look" of a building at the preliminary design phase may tend to oversell the design and torpedo the whole project. The presentation should be directed to questions that need to be answered. Perspectives should have a handcrafted personal touch with visual tactile values. There is a point where realism no longer increases a drawing's effectiveness, but this is not a fine line. An architect can oversell something that does not leave much to the client's imagination. If all decisions are made, the client feels like he is

trapped. If everything is explicitly delineated, the client may get the impression that no suggestions will be welcomed.

ARCHITECT NO. 7: older architect, two principal firm, interviewed
9-28-78:

You do not want to try to design the building in the program stage. Once, an architect went before a school board with bubble diagrams. The school board said they wanted the buildings like the diagrams, so the architect designed round buildings. During schematics, single line drawings are used because they are easy to follow. During design development, hopefully all questions are answered. An architect should work closely with the client all the way through the design process so that there are no surprises.

ARCHITECT NO. 8: middle-aged architect, one principal firm, interviewed 9-28-78:

In the beginning, the unsophisticated client is frightened by drawings. The printed word seems easier to grasp than the hard cold data of the program. I started out believing that schematics should be bubble diagrams of functional relationships but tighten down in order to get more information from the client. Detailed drawings presented to a client too early is suicide. If schematic design drawings are too pinned down, the architect is wasting time and fooling the client. A photographic image of the design should not be shown at the schematic design phase because you need fluidity and may lose potential input from the client.

ARCHITECT NO. 9: older architect, one principal firm, interviewed

10-4-78:

The first drawings should be program drawings. Don't ever start out with a sketch of what it will look like because you don't know what the client wants. You want to show the three dimensional aspect to the client as early as possible. Don't give the client more than he can grasp as a whole. There is no need to completely educate a client—he doesn't expect it. The architect should say to the client in other words: if you want this you are also going to have such and such. The client must know what to cut, he must be in the cutting process. The client should be relaxed in order to get into the nature of the project. He should be relieved of the natural tensions in order to get as quickly as possible to the scope of the project.

ARCHITECT NO. 10: younger architect, one principal firm, interviewed

9-26-78:

I usually draw freehand schematic drawings on buff paper over more hard lined drawings to give the client the idea that the design is not fixed, that it is flexible and can be changed. Realistic images at the design stage would be good if there was an opportunity to show alternatives. You can take a lot of artistic license with perspectives to transfer the sense of the building. It is not important to have everything exactly perfect. Clients have problems with scale, even when they make marks on a scale drawing.

ARCHITECT NO. 11: younger architect, one principal firm, interviewed 9-27-78:

Schematic drawings at a small scale are more manageable. An architect should keep the design flexible as long as possible in order to have a cost effective project. The concept is the common denominator that ties the architect and client together.

ARCHITECT NO. 12: middle-aged architect, one principal firm, interviewed 9-27-78:

The client is part of the design process. Drawings should not be a big surprise. The architect should try to de-emphasize detail in the conceptual stage, talk about objectives, go from the general to the specific. Rather than show materials in drawings, I show the client actual samples.

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