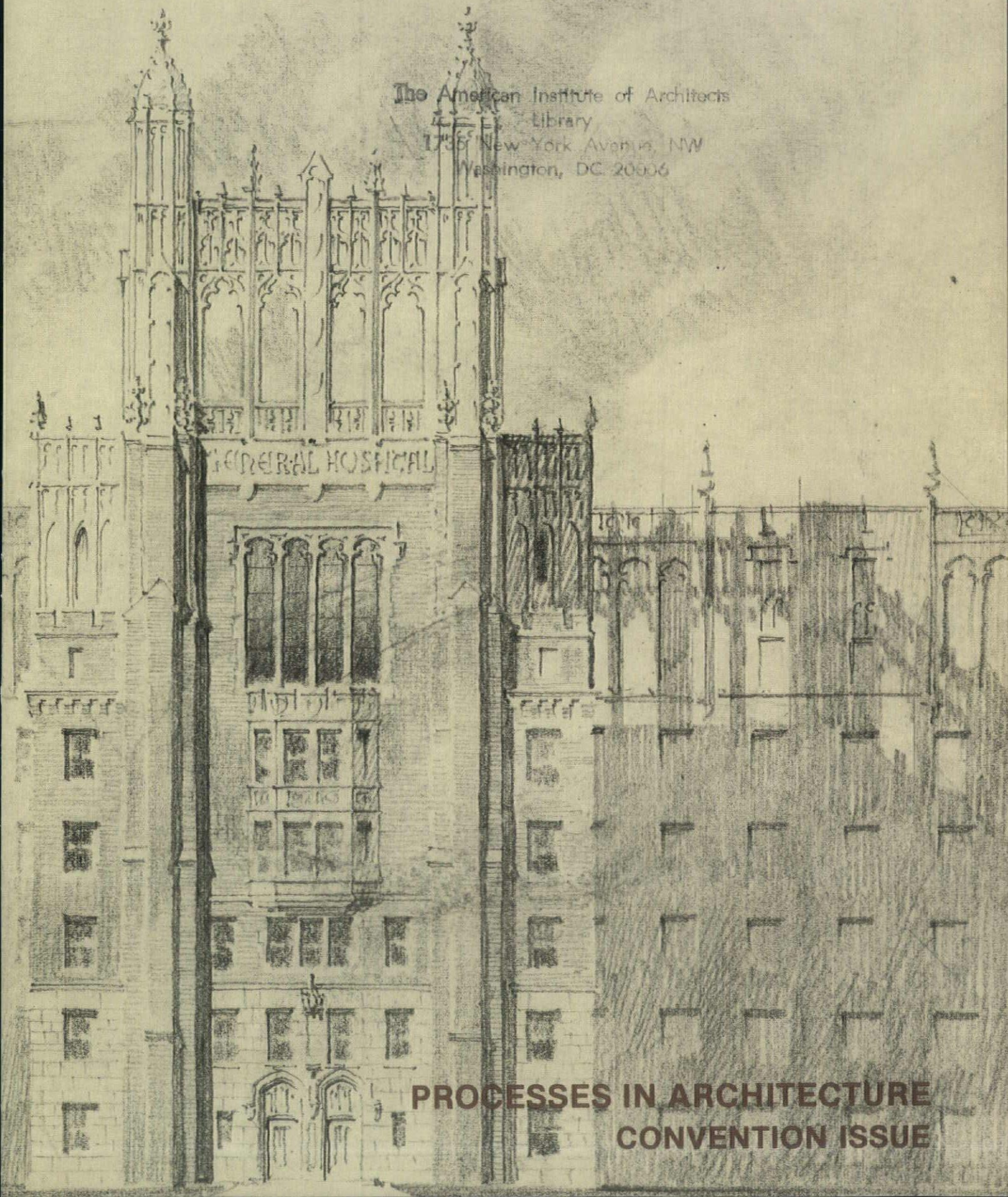
IA - 1980 - SEPT/OCT.

# IOWA ARCHITECT

September/October, 1980



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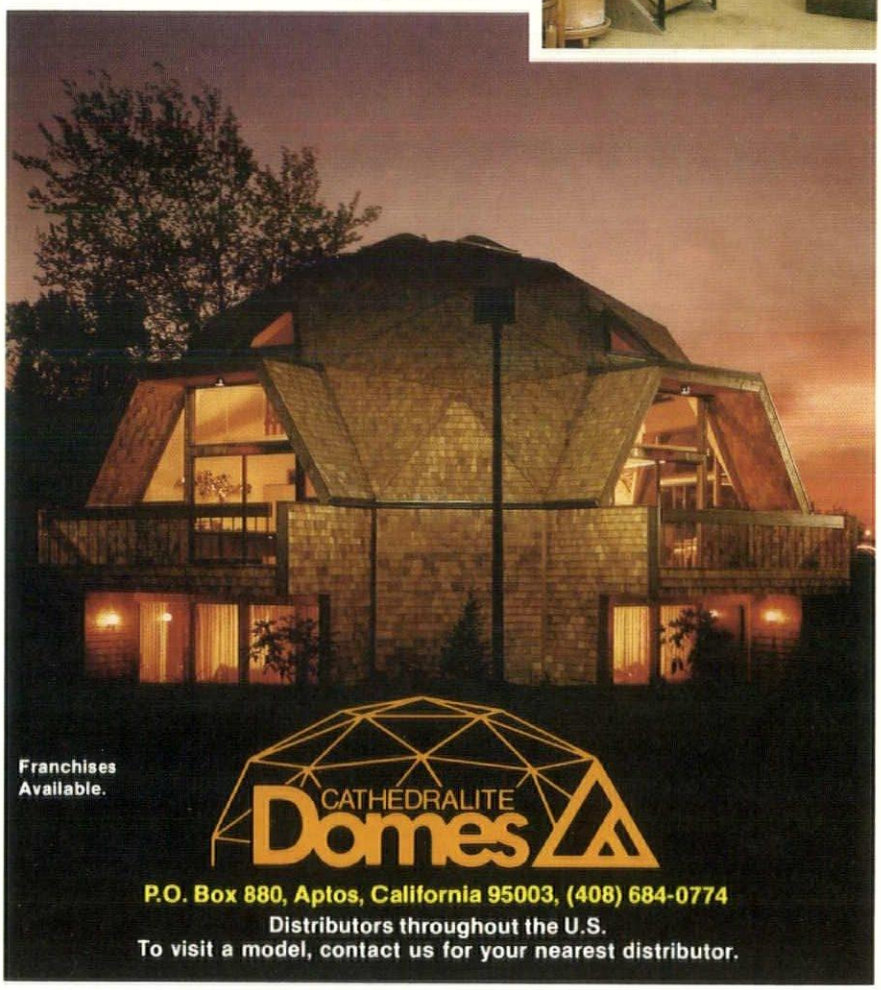


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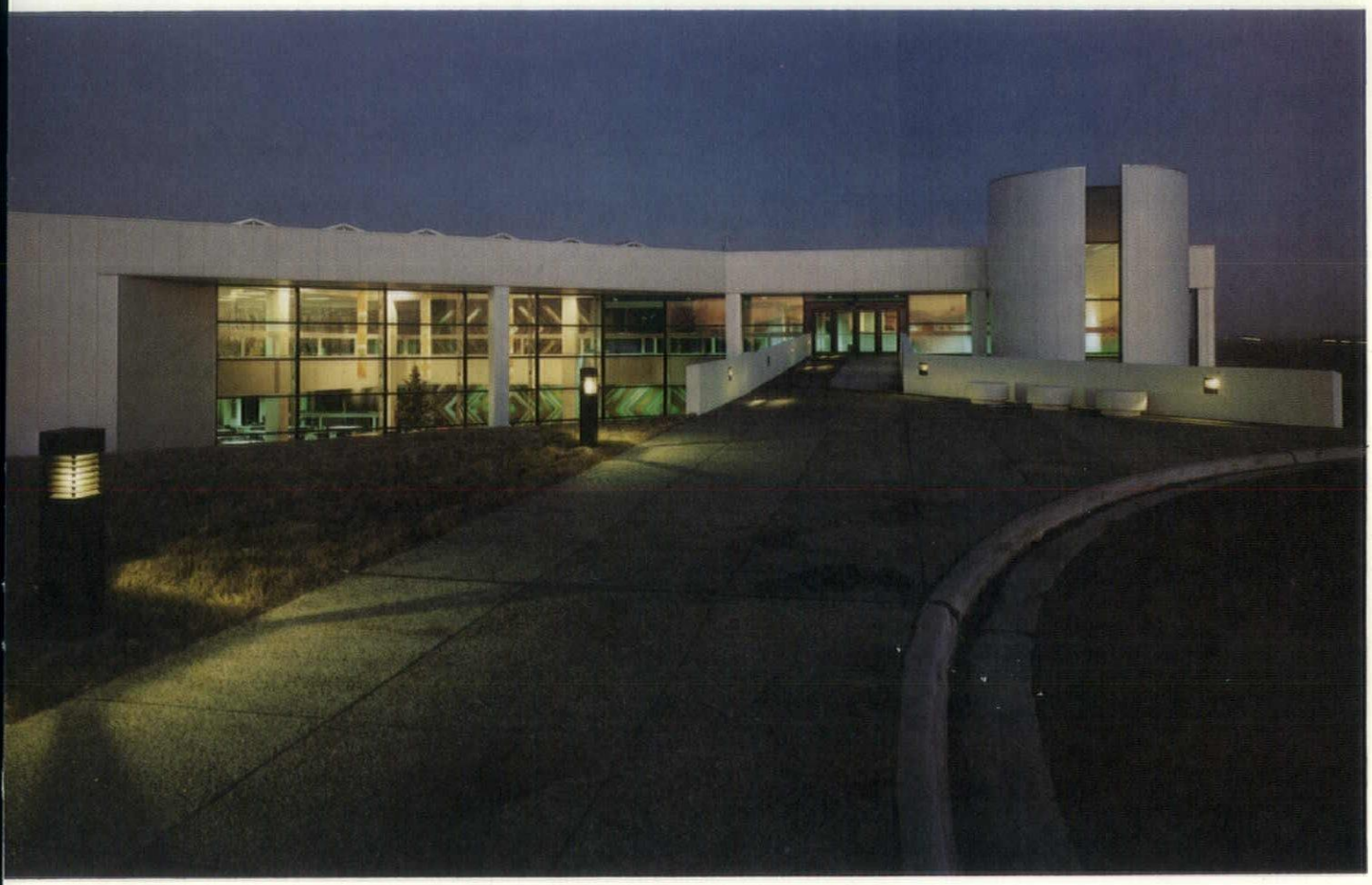

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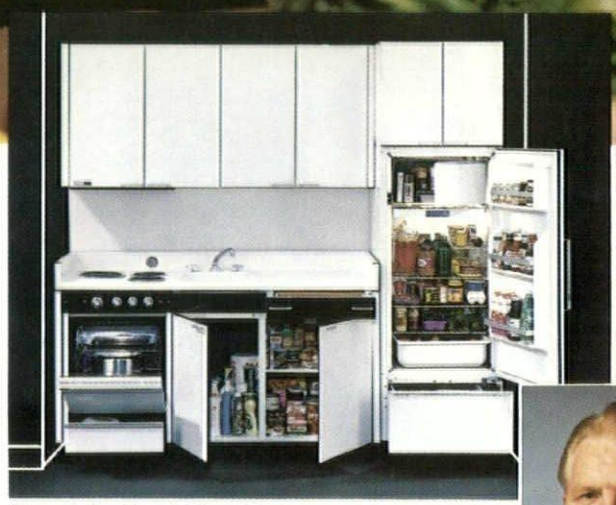

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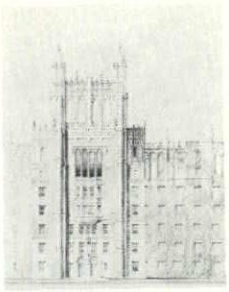

**On the Cover:**
City Hospital Project, 1928. Proudfoot, Bird, and Rawson Architects, Des Moines, Iowa. Pencil on yellow tracing paper.

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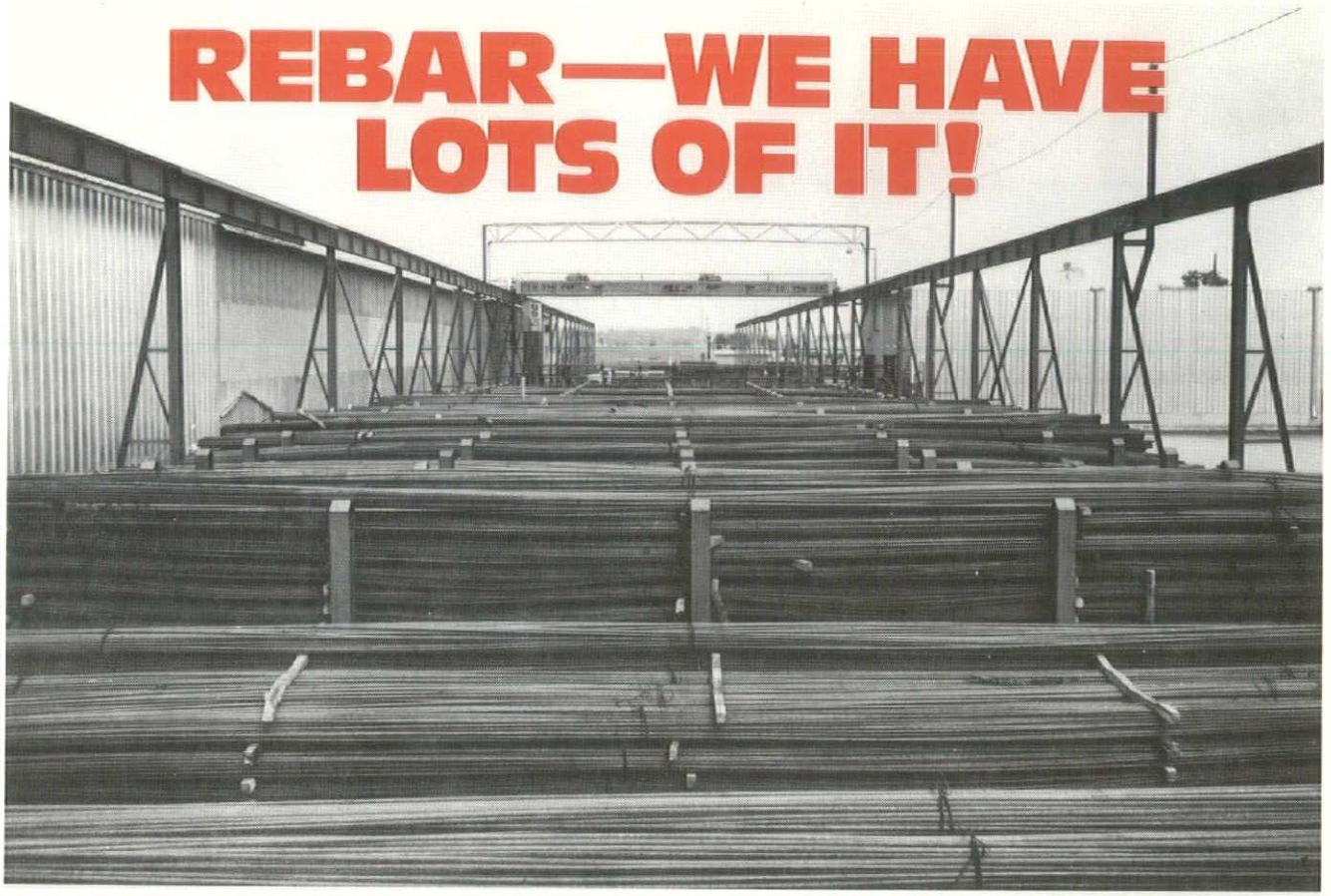

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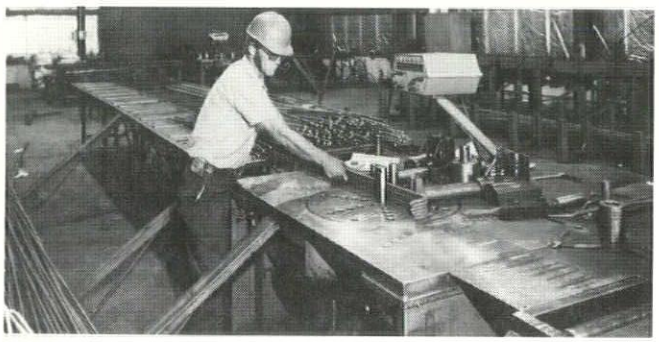

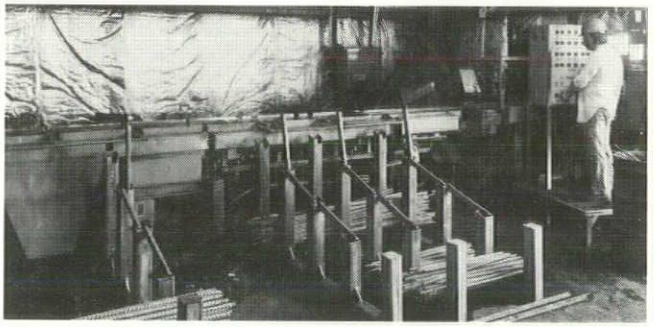

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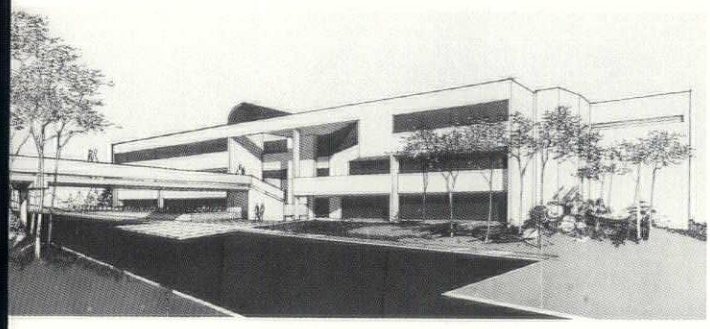
# WORKS IN PROGRESS

## Corporate Headquarters At Ames



Rudi / Lee / Dreyer Architects are completing contract documents for the corporate offices of Sandage Real Estate, Inc. The 33,000 square foot structure includes rental space which will adjoin the Gateway Center Motel development in Ames. Foremost among design concerns was insuring an energy efficient building configuration and southern exposure for long horizontal bands of tinted glass. The $1.6 million project utilizes a steel frame structure and a precast concrete panel exterior.

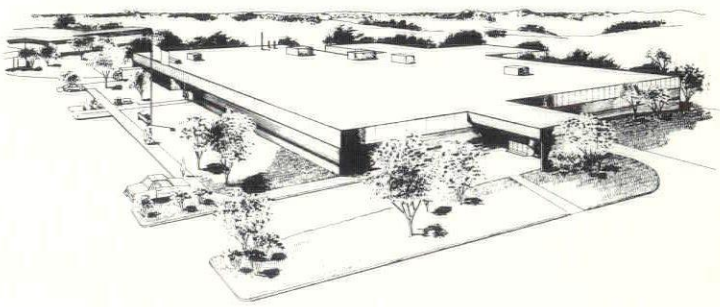
## Multi-Unit Housing

Also designed by Rudi / Lee / Dreyer and now under construction is Arbor Terrace Housing in Ames. Initiated as part of the Ames Community Development Program, the HUD project reclaims property which was formerly the site of a junior high school. The 43 units comprising the development include two bedroom apartments and two- and three-bedroom townhouses which take advantage of the sloping site. Walk out apartments have been grouped on the lower level with townhouses placed above. In addition, a daycare center available to tenants has been designed for an adjoining lot. Completion of this $1.4 million project is expected in mid-1981.

## Group Homes For The Handicapped

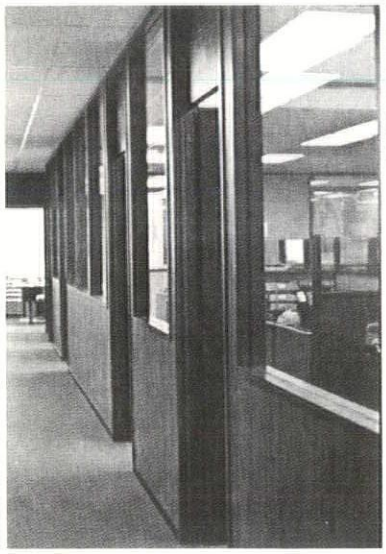
Systems Unlimited Group Homes, a project to provide scattered site housing for handicapped people has been designed by Wehner, Nowysz, Pattschull and Pfiffner Architects, Iowa City. A total of eight homes are to be constructed by Systems Unlimited, Inc. as provided by HUD Section 202. Five of the units will be located in Iowa City. Coralville, Washington and Williamsburg, Iowa provide sites for each of the other homes. The typical design is approximately 3500 square feet on one level. Each includes six single bedrooms, four bathrooms, a kitchen, living room, recreation room, exterior deck and recreation area and living quarters for house parents. Groundbreaking for this $1.7 million development is expected by October of this year.

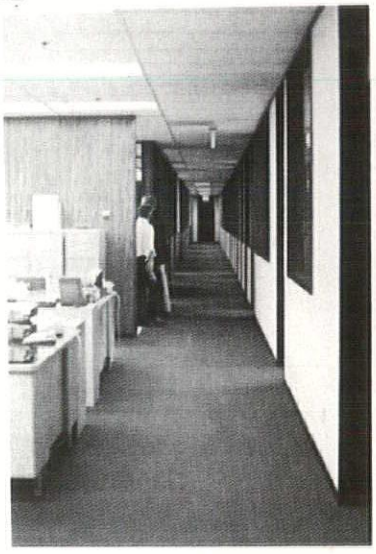
## New Hospital For Aledo, Il.



Site and foundation work have begun on Mercy County, Illinois Hospital under an accelerated method contract for Midland Architects, Inc. of Burlington, Iowa. The project calls for replacement of an existing hospital with a new building housing all functions on one level. A 50 bed inpatient nursing unit, outpatient departments and service areas are zoned with a degree of separation from one another and for future expansion. A horizontal expression for the hospital responds to the rural site and existing adjacent one story nursing home. Shared services, a future enclosed connection between the hospital and nursing home and separate entrances for emergency, public, service and employee traffic were design parameters. Material and color contrasts express the horizontality of the linear one-story form. Steel stud load bearing exterior walls and metal joists on steel beams and columns were selected for cost containment. The 50,000 square foot structure is expected to cost $4.4 million.

Correction: *Works in Progress* of the July / August issue noted a renovation project for Northwestern Bell Telephone Company in Des Moines. Credit to Bussard / Dikis Architects was mistakenly omitted.





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# Processes In Architecture

## Illuminating the creative processes that lead from initial conception to built reality

by Lawrence B. Anderson
Professor Emeritus - Dean Emeritus, School of Architecture and Planning, MIT

*Frequently in the past few years architectural drawings have become the focus of important exhibitions at museums, universities and commercial art galleries. Practitioners, students of architecture and an increasingly interested public have, for example, witnessed numerous, impressive showings of Beaux-Arts drawings.*

*Contributing to this interest surely, has been an awakening concern for our American and Iowan architectural heritage.*

*Indeed, drawings may stand as the only record as buildings succumb to demolition, decay, or urban redevelopment. Others insist that until recently drawings during the post war construction boom and 1960's were as uninteresting as the buildings they represented. (See David Gebbard, "Drawings and Intent in American Architecture.")*

*Few though have remained content to view these drawings soley in terms of visual art. A strong body of critical commentary has looked to the process itself and the direct correlation between the medium through which the architect studies form and the resultant physical form itself.*

*Such an interest was clear in the exhibition entitled "Processes in Architecture: A Documentation of Six Examples," that opened last year at the Hayden Gallery in Cambridge, Massachusetts.*

*The two articles that follow were published as part of that exhibition catalogue; the first as a forward by Lawrence B. Anderson, The other an excellent introduction by Imre Halasz. Accompanying both are drawings by Iowa architects that show a process "never twice exactly the same."*

*These excerpts are reprinted with permission of The M.I.T. Committee On The Visual Arts, Cambridge, Massachusetts. A special issue of PLAN to accompany the Hayden Gallery Exhibition "Processes in Architecture: A Documentation of Six Examples," was jointly published in Spring 1979 by The M.I.T. School of Architecture and Planning and The M.I.T. Committee On The Visual Arts. Copies of this outstanding catalogue are available.*

It is with delight that architects look back on their first encounters with tracing paper. Superimposing pieces of this translucent stuff over a first sketch, they learn how to change, correct, amplify, filter, reinforce, elaborate, enrich — in short, to "develop" an architectural design. The process becomes comparable to the struggle with a verbal expression, but engaging a part of the cortex equipped with a different and, for some, a more congenial vocabulary. Generating successive images and reacting to them with new interpretations is surely putting the brain to work as well as the fingers, though not necessarily to equal extent. One teacher says, "Don't think, draw" while another says, "Tracing paper shoul not be abused."

Of course, tracing paper is not the only medium usefu to the design process. Printed copies on opaque or o transparent base, drawings on other papers often usin tones and colors, three-dimentional models in paper c wood, and photographs are all in frequent use. Soon th video monitor also will be a common tool.

And the reiterated and constantly modified image i not just a designer's way of talking to himself; it also i superb for linking the minds of collaborators, cor sultants, and clients in order to obtain their contribution

and to incorporate them immediately into the developing design.

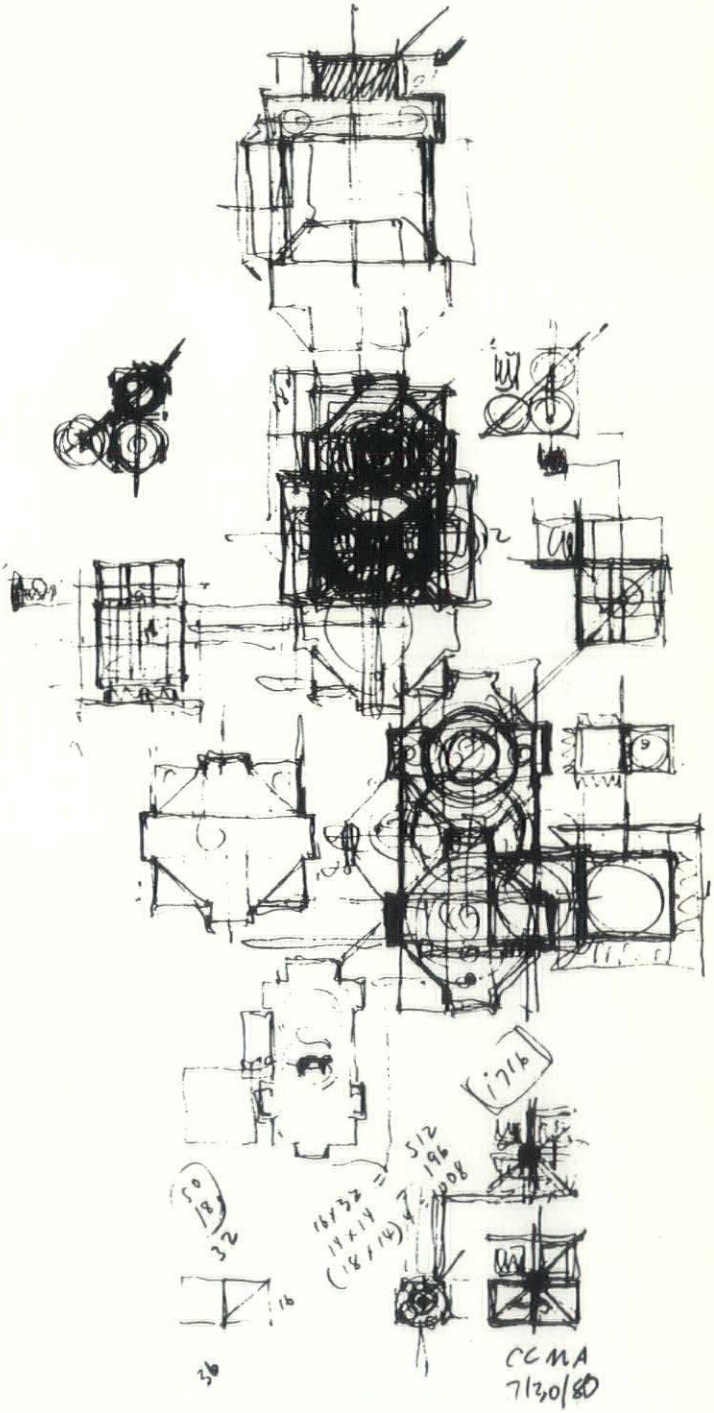
Architecture is a social art, and every project the work of many collaborators. It can proceed only through a wide sharing of intentions, orchestrated more or less ably by those trained to prepare the images. Yet it is the lot of few people to be actually drawn into this process. Most of us experience buildings without any knowledge of how they came to be the way they are. If a proposed building has some public importance, it may be heralded by what the newspapers persist in calling an "artist's conception." But at their best, these blandished renditions only can predict how a fully-designed building will look. They cannot tell us why or how the form was developed. That process remains poorly understood.

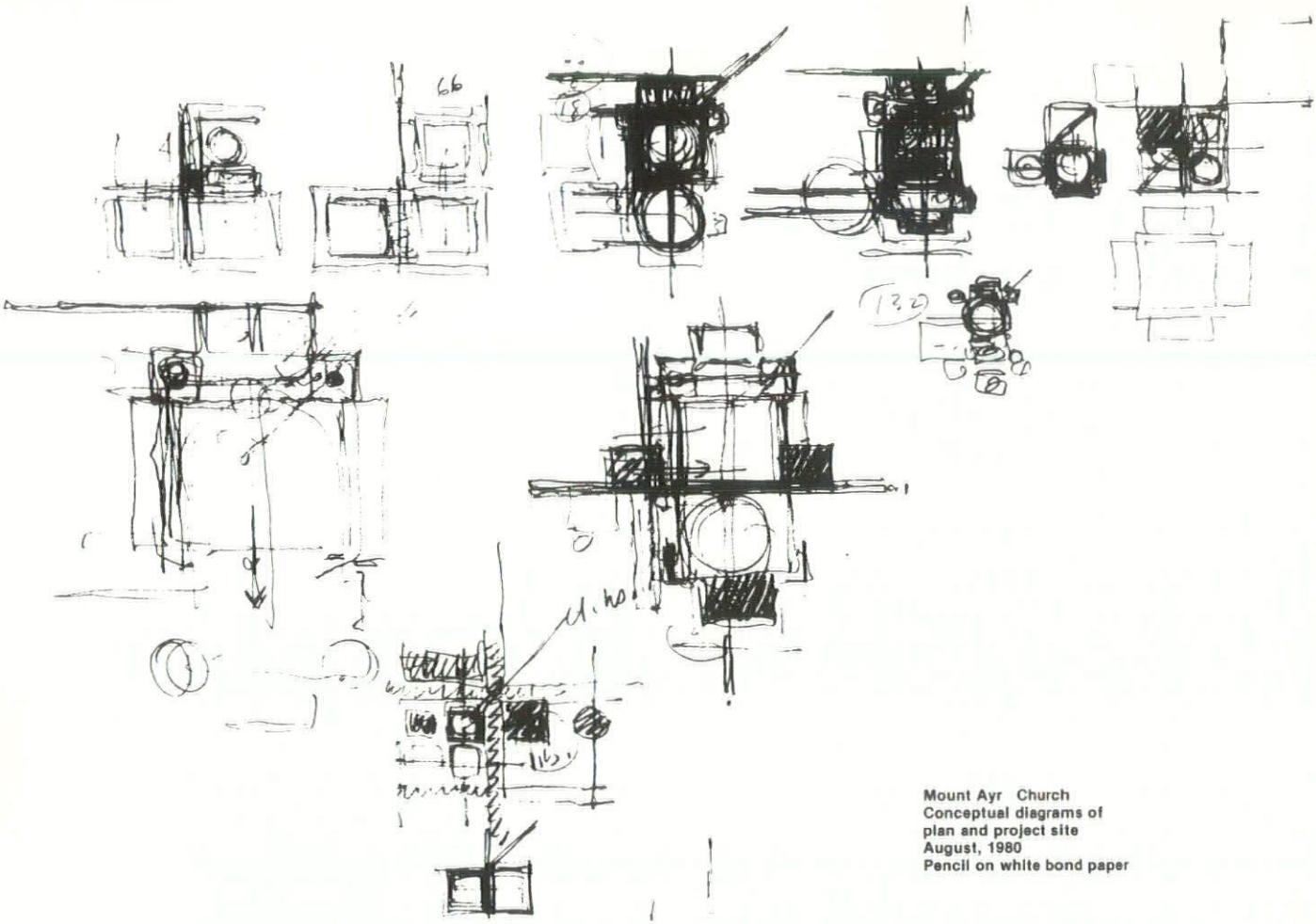
Since drawings and models used in the design process may survive and shed light in retrospect on the process itself, the exhibition wished to document as fully as possible a selected number of projects, each to constitute an in-depth case study. The drawings shown were chosen and arranged not so much to celebrate their content or aesthetic merit as individual pieces, but to convey a sense of the complexity of the visual communication network that supports what is about to become a piece of the built environment.

There are naturally other valid reasons for looking at architectural drawings. These are sufficient to have motivated several recent exhibitions and to have constituted or influenced many recent publications. Fine drawings deserve to be considered as works of art, whether or not this can be said of the architecture they represent. Some first-rate painters and draftsmen have chosen architectural settings as their dominant subject. However, influeces of a more topical nature underlie the current resurgence of interest in architectural drawings. We have come to one of those breathing spells that periodically arrests design thinking in its tracks. There is, for economic reasons, a slow-down in construction. More importantly, many voices are saying that what we have known as "Modern Architecture," which started off fifty years ago with high social purpose, praising rationality and functionalism, has now arrived at a dead end of creativity without having won the hearts of its users. The time has come to reexamine the meaning of it all and to chart new directions toward what has, as yet, no better name than "Post-modernism."

Meanwhile schools of architecture have attracted an increasing number of students eager to get to work on the environment. Many talented young architects, graduated into a troubled time, share this need for new outlooks; however, since they lack the opportunity to

**Mark Englebrecht**
**Mount Ayr Church, Mount Ayr, Iowa**
**Conceptual Notations**
**July, 1980**
**Pencil on white bond paper**
**Englebrecht and Griffin Architects**





Mount Ayr Church
Conceptual diagrams of
plan and project site
August, 1980
Pencil on white bond paper

build real buildings, they find that their access to a public forum is, for the time being, limited to graphic representation. Only by the exhibition and publication of their drawings can a sense of the richness and creativity of this young generation be shared.

The current surge of critical admiration for architectural drawing even includes a school of thought which argues that an architect's drawings are more important indicators of creative intentions than are his buildings. Any executed building is a kind of social compromise in which original intentions have been diluted by the ideas of many personalities and by considerations of economy and usefulness. Innovative thinking is most free when it is unhampered by the necessity of tailoring a design to a given program and then overseeing its incorporation into a built facility.

Every period has its "visionary architects," who seldom build but attain polemic stature through the images of a more ideal environment which they project. Today universities provide numerous havens for such innovators because they are often very very inspiring teachers. Possibly our present transitional period of "Post-modernism" is one in which more than usual attention needs to be paid to these voices (or rather, to these images) since they constitute a part of the exchange among creative minds that appears to be increasingly important.

However, we embrace the notion that the profession of architecture is one of problem-solving in relation to the needs of specific clients. The aim of designers is not primarily to promote dialogue with critics and peers, but to enhance the lives of inhabitants, users, and owners; let historians and critics come to their own conclusions in due course.

In this scenario, we would expect to find an initial exchange of messages between the client (or his surrogate) and the architect (or his job captain) with subsequent inputs generated by climatic and physiographic facts; local, regional and national standards and controls; the nature of gravitational forces; the availability of materials; the financial resources in-hand; and the general cultural ambiance peculiar to the circumstances. This is what we have tried to document.

It may be well to offer a brief technical enumeration of the kinds of graphic expression that may be encountered in this issue. Inescapably, to draw a plan remains at all times the first way of saying something about the relationship of parts of an architectural whole. Nevertheless, although plans can convey a great deal about what happens horizontally, the trilogy of plan, section and elevation is indispensable when one tries to describe fully the three-dimentional reality of an architectural concept. The sections in a way precede the elevations, since they examine the interior volumetric arrangements that will

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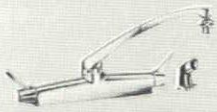

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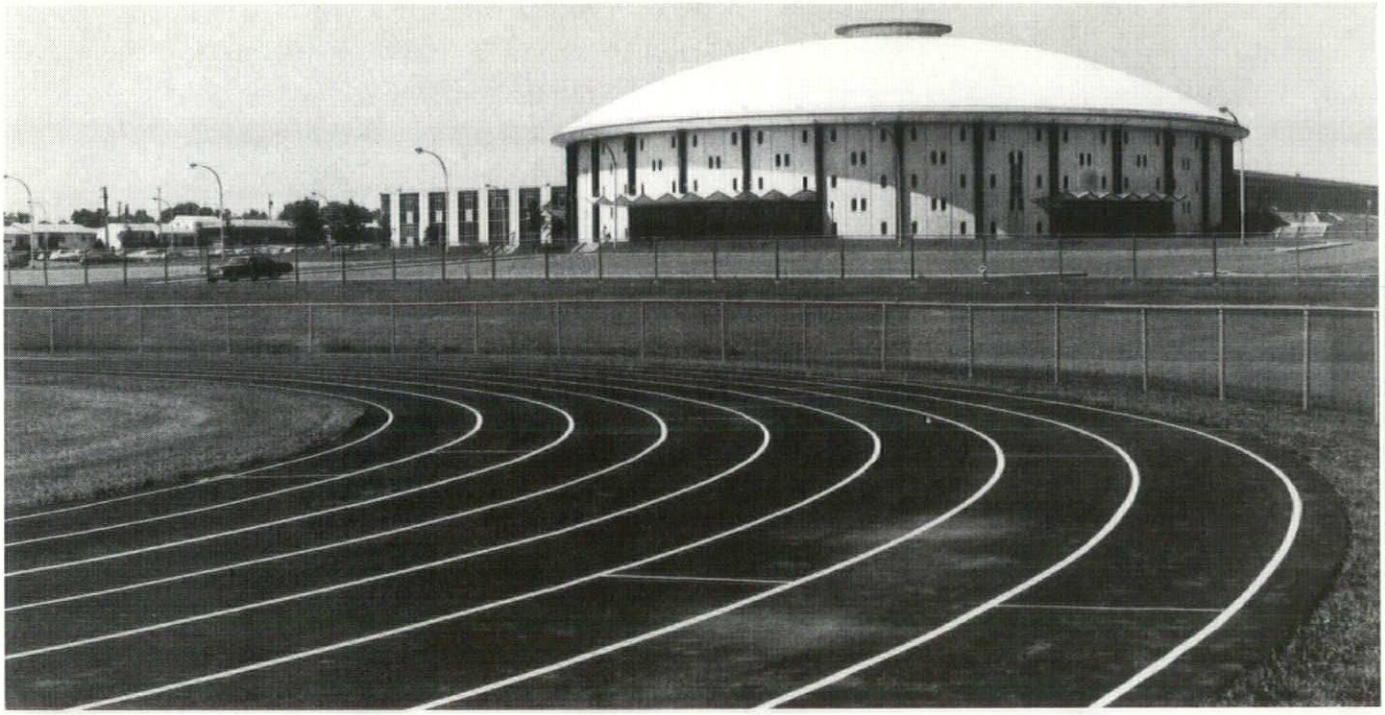

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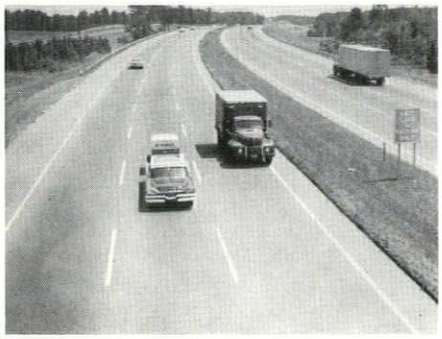

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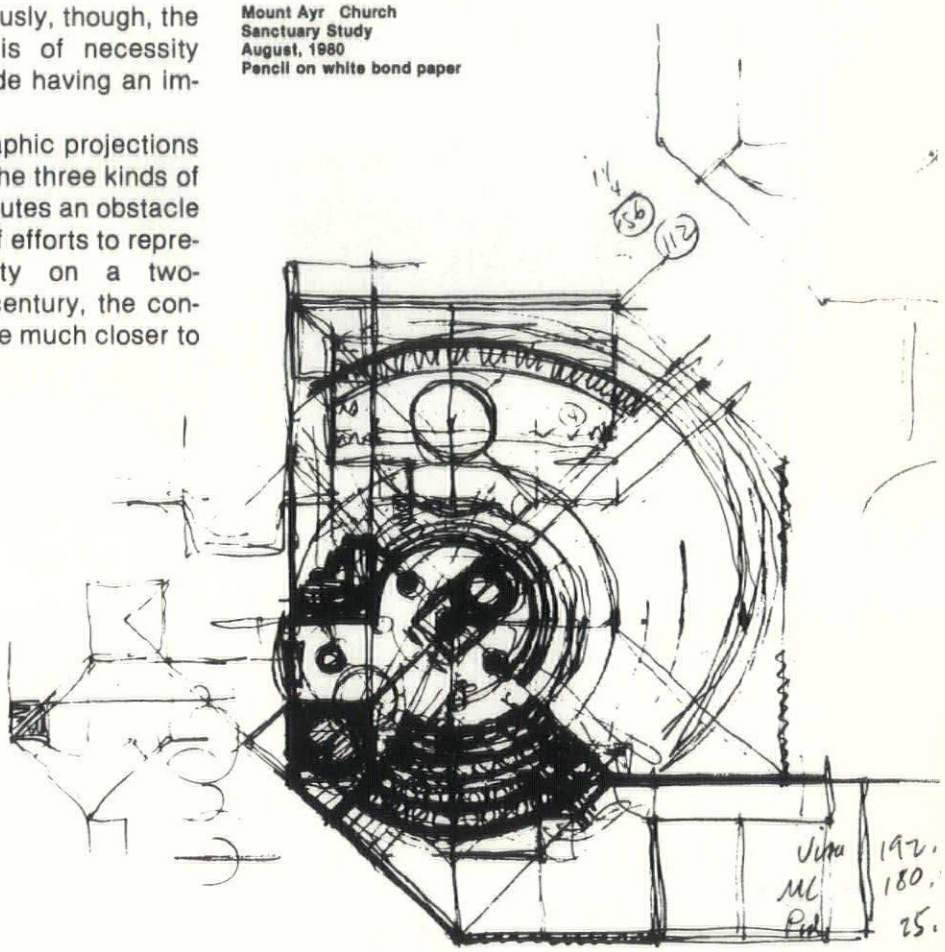
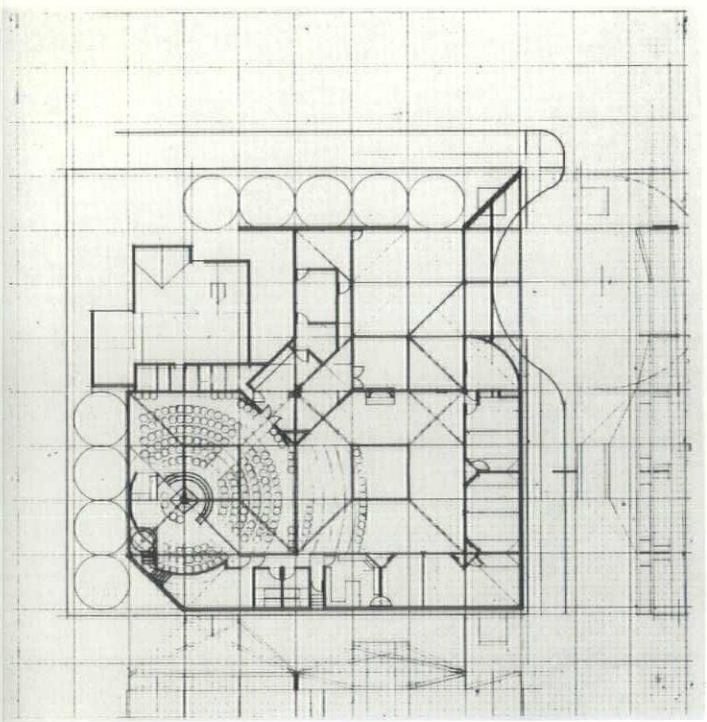
find some echo in the elevations. Obviously, though, the process of preparing such studies is of necessity iterative — each discovery in one mode having an impact on the other modes.

While this trilogy of straight orthographic projections always will remain basic, the fact that the three kinds of drawings must be seen together constitutes an obstacle to easy comprehension; history is full of efforts to represent better three-dimentional reality on a two-dimentional surface. In the sixteenth century, the concept of perspective representation came much closer to

**Mount Ayr Church**
**Sanctuary Study**
**August, 1980**
**Pencil on white bond paper**



**Mount Ayr Church**
**Plan and Section Development**
**September, 1980**
**Graphite on mylar with screened grid**



what the eye and brain see as they appraise nature. Perspective drawing and rendering (with colors and shadows) have become the medium of exchange for the "artist's conception," but in the process have lost some credibility among designers. By utilizing this method, it is all too easy to distort proportions, introduce extraneous environmental enhancements, and otherwise warp the viewer's evaluation.

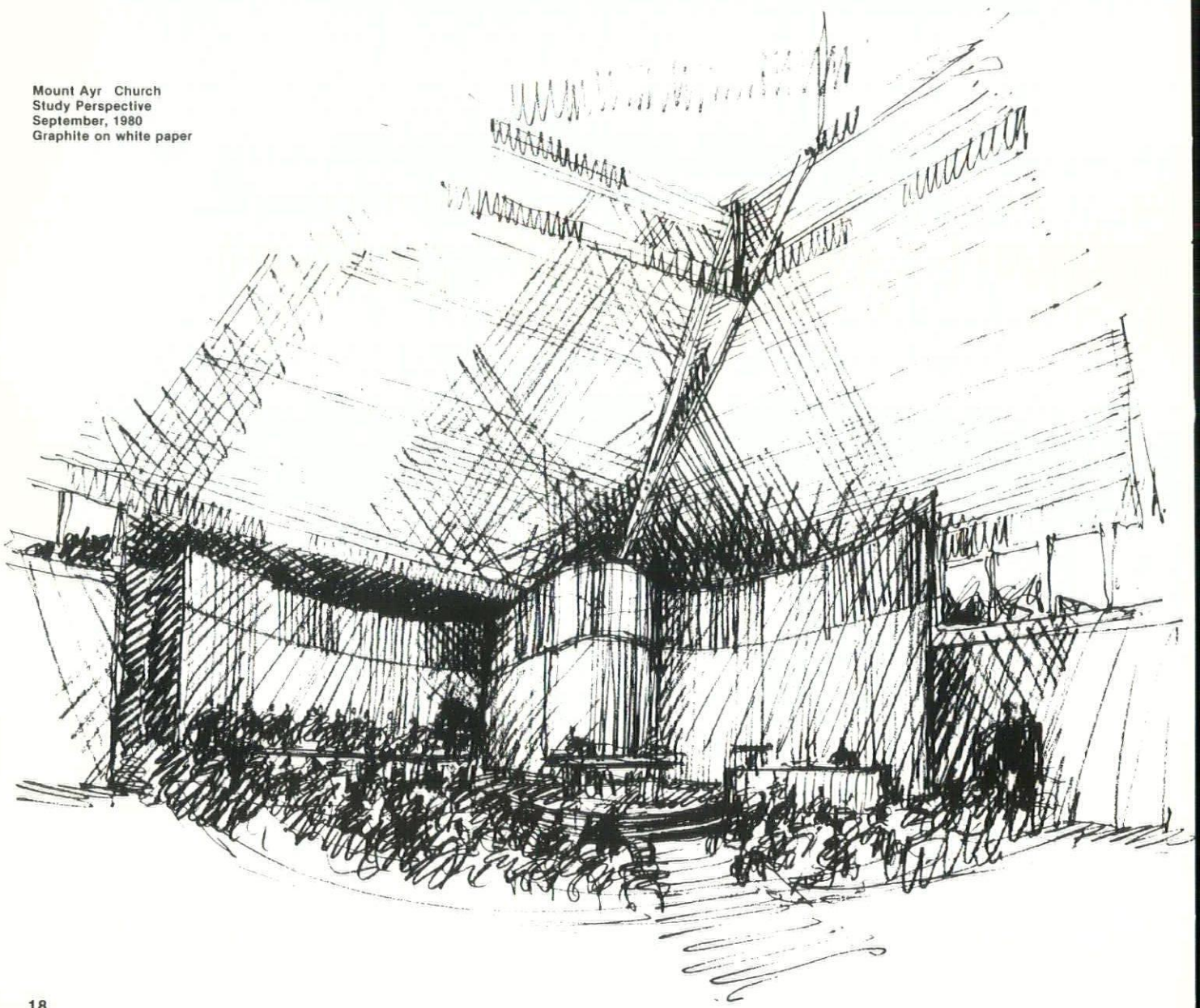
What is needed for no-nonsense graphic communication is something less subjective than formal perspective drawing. That kind of drawing was appropriate as a romanticized interpretation of what might occur in an environment, at a time when everyone agreed about the meaning of beauty; but when a more intellectual approach was indicated, this proved insufficient.

At the beginning of the twentieth century, Auguste Choisy published a number of books analyzing previous

modes of building in terms of their structural components. Of an analytical turn of mind, he preferred a mode of drawing we call "axonometric," in which all three dimensions of an object are shown in more or less their measurable dimensions. With such a drawing, one can mentally construct a three-dimensional object such as a building. Furthermore, the axonometric drawing lends itself to cut-away and transparent views. As practiced by Choisy, the building was seen from below, to reveal its vaulting organization. It is interesting that today's designers tend to avoid Renaissance perspectives (except, perhaps, for the aforementioned artist's conceptions) in favor of axonometric projection, which is less realistic but more analytical. Eloquence and beauty are often evident in such drawings.

The observer will do well to remember, however, that most of the work shown here was not made for the purpose of display but to convey the author's ideas about a future building. Before there is a hole in the ground, the very concept of the building will have taken several forms as more desirable directions become identified through comparison and discussion.

While we hope that this presentation will shed some light on this process of design, we expect that it also will show that every architect proceeds in a different way, and that he adapts his process to fit the conditions encountered in every new task. In that sense it is a mistake to visualize a single process. Not only is process complex, it is never twice exactly the same.



**Mount Ayr Church**
**Study Perspective**
**September, 1980**
**Graphite on white paper**

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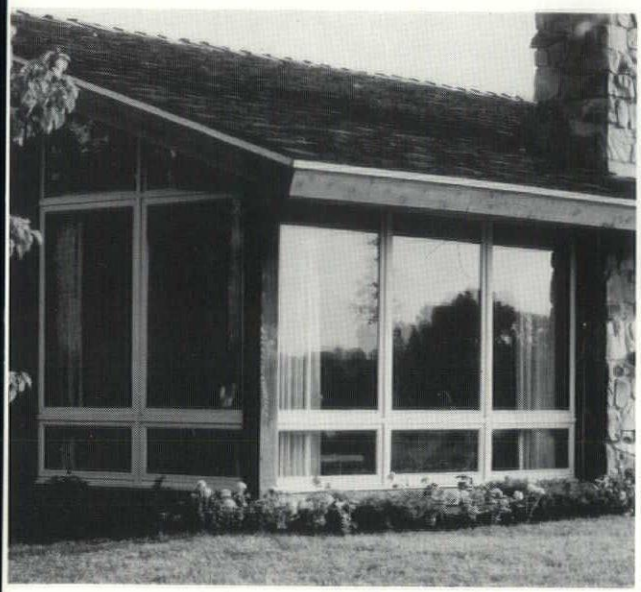

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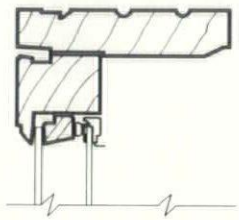

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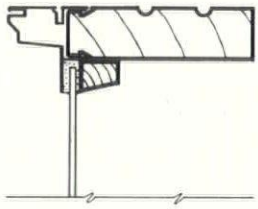

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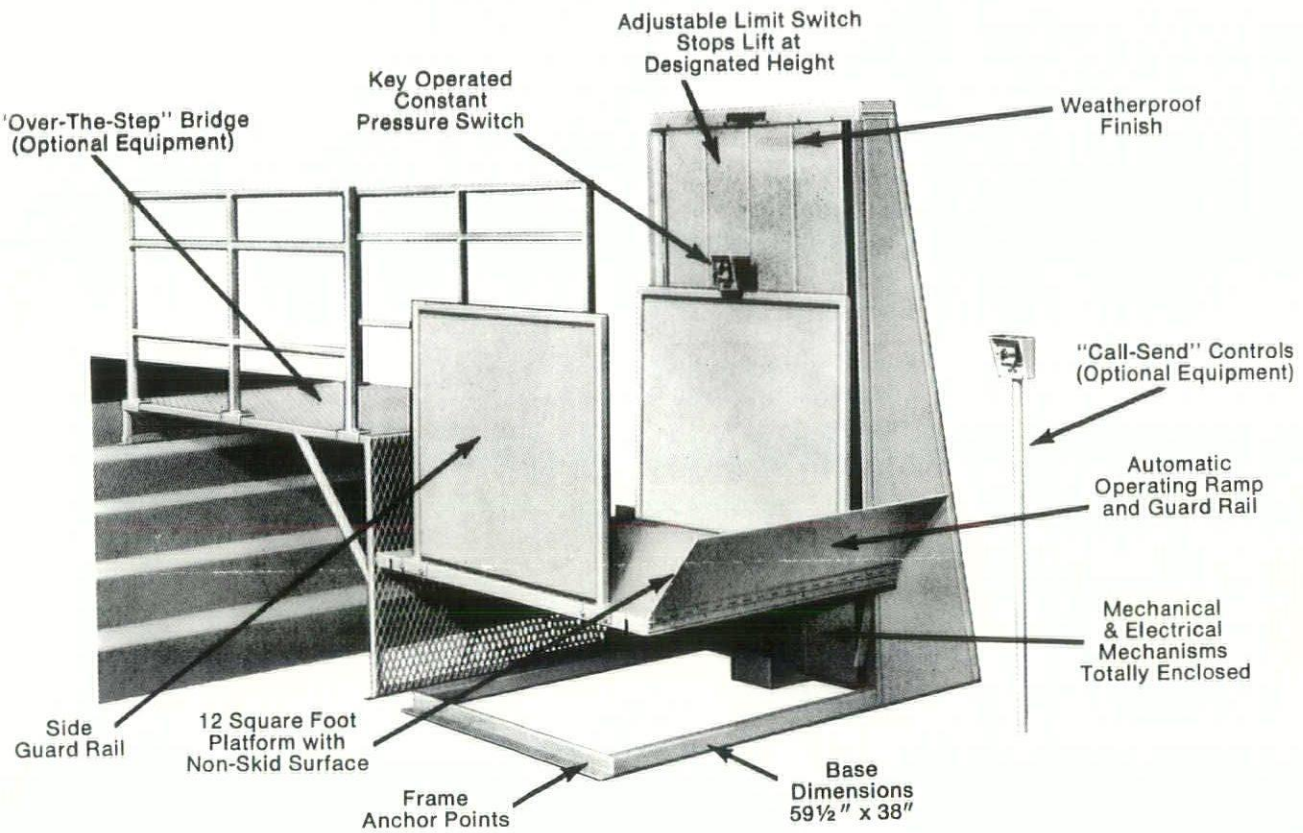


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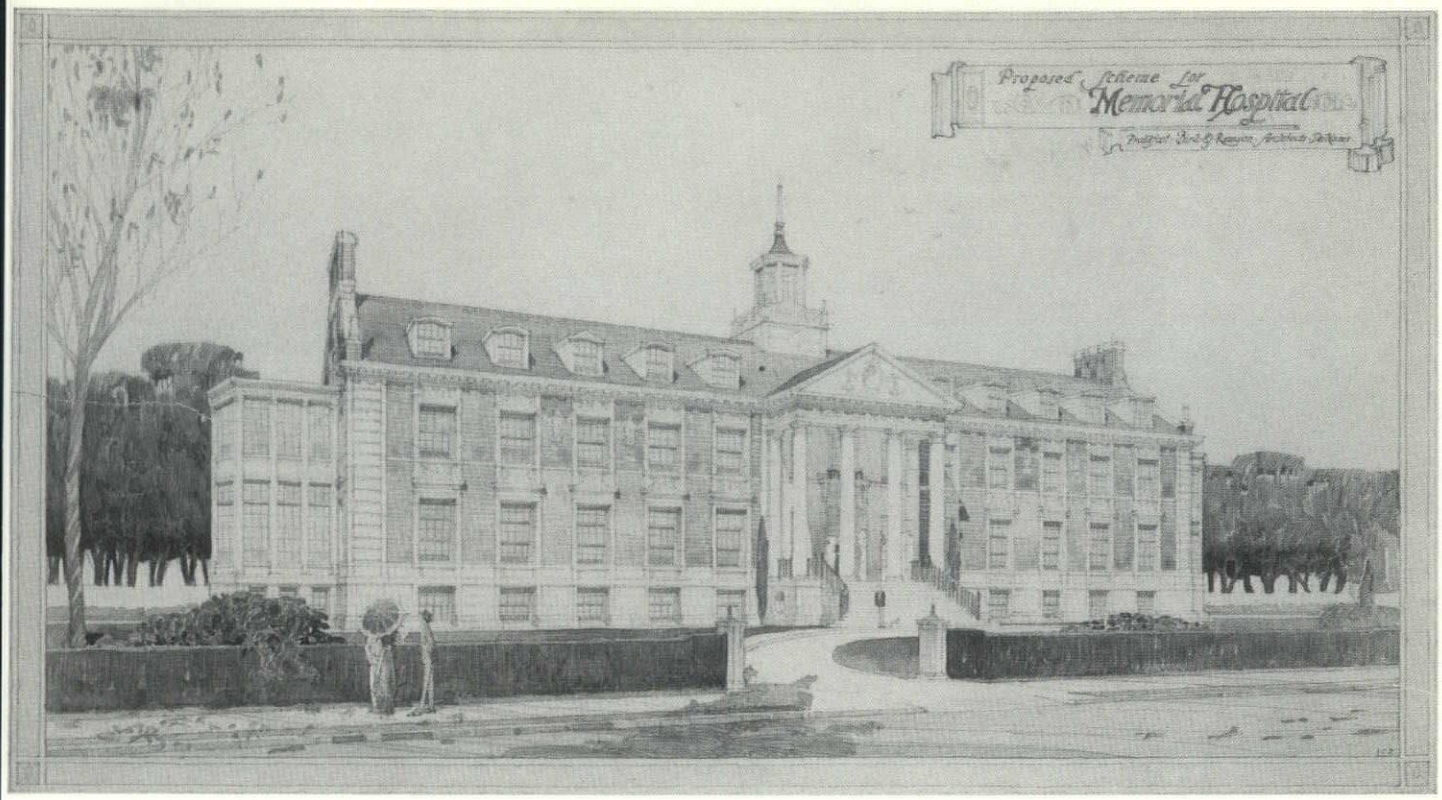



**Louis C. Rosenburg**
**Proposal for Veterans Memorial Hospital**
**Perspective, circa 1916**
**Pencil and colored pencil on yellow board, 11½"x 21"**
**Brooks, Borg and Skiles Archives**
**Des Moines, Iowa**

# Ideas into Form

## Understanding Drawing / Physical Form Relationships

by Imre Halasz, Professor of Architecture, MIT

In addition to his legacy of compelling architecture, Louis Kahn has left graceful and poetic words about architecture and the architectural process. It seems appropriate, therefore, to begin this introduction with a passage from one of his articles, "Architecture: Silence and Light." "When a building stands complete and in use," Kahn wrote, "it wants to tell you about the story of its making." This, in essence, is the theme that this issue attempts to explore.

It is important to understand that there is a direct correlation between the medium through which the artist searches for form and the result of the search — the physical form itself. The academic tradition of the nineteenth century conceived architectural design exclusively as a process of creative thought graphically manifested, controlled, and ordered. Accordingly, most architectural theories of that period directed attention to the external appearance of the end product. The modern movement that followed represented a change in emphasis in creative design; certain points of manipulation obscured the importance of graphic manifestations. In fact, the modern movement can be interpreted as a search for more objective tools intended to lead the architect to designs of increasing levels of relevance to society. The search for a rational basis and rejection of historicism took the form of a deemphasis of drawings in favor of models, as well as an exploration of other nongraphic tools. Careful drawing, remembered as the gimmick of the academics, became suspect, subjective, and able to deceive by wrong emphais.

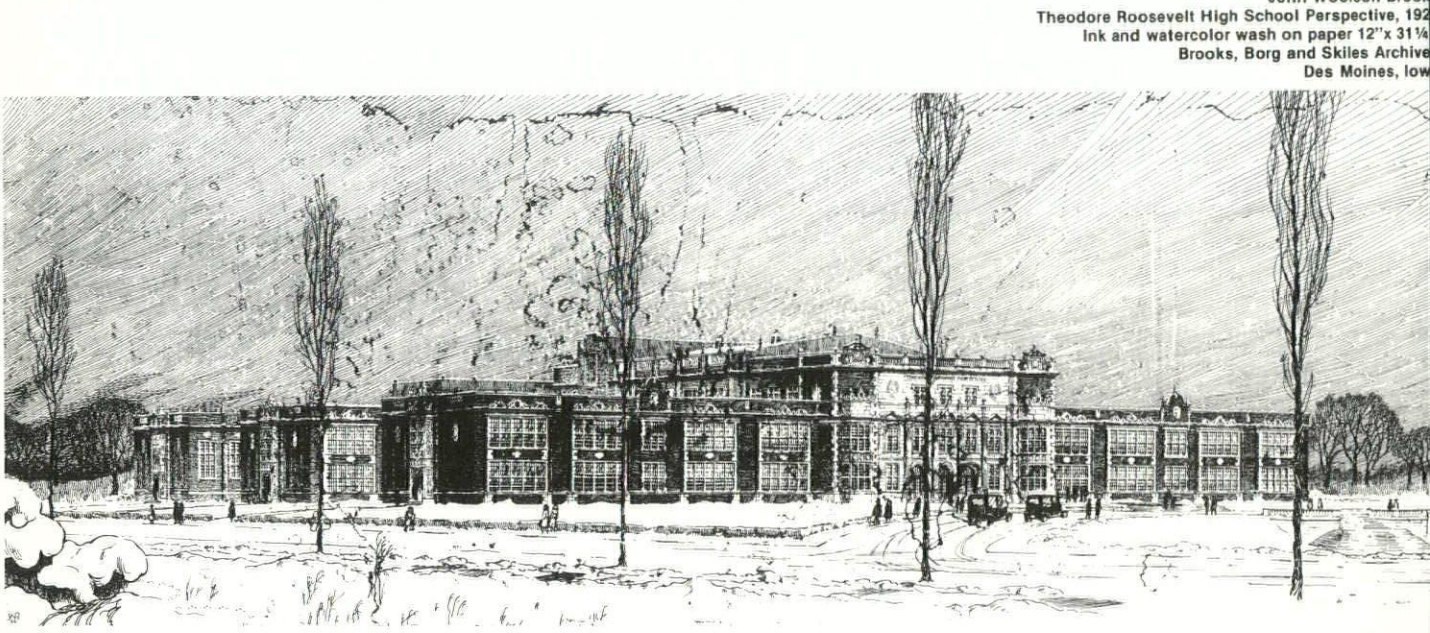
The felt need for departure from the drawing as the exclusive design generator coincided with the development of nondrawing methodologies which occupied the forefront of architectural thinking. In behalf of the new architecture, Le Corbusier warned against the "false images" which tempt architects, declaring that "engineers produce architecture, for they employ mathematical calculations." He stressed the need for precision, for some positivistic foundation that would preclude the evolution of "false images." But he drew all his life and valued the process: "When one...works with visual things — architecture, painting or sculpture — one uses one's eyes and draws, so as to fix deep down in one's experience what is seen. Once the impression has been recorded by the pencil, it stays for good, entered, registered, inscribed...To draw oneself, to trace the lines, handle the volumes, organize the surfaces...all this means first to look, and then to observe and finally perhaps to discover...and it is then that inspiration may come."

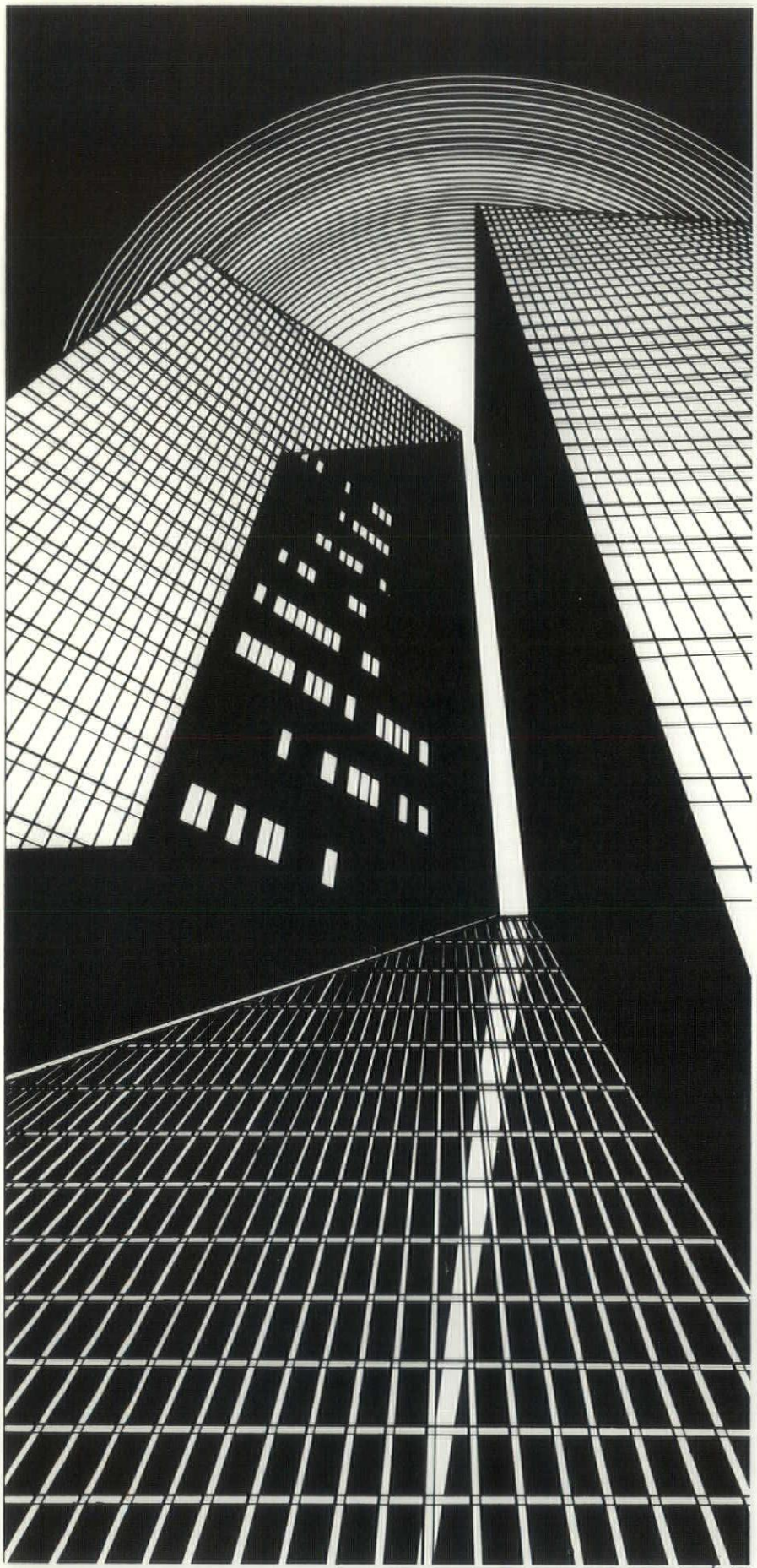
Soon several disciplines — high technology, industrial management, systems analysis, economics, ecology, and the behavioral sciences — proposed themselves as models free of subjectivity, and attempted to supply the fragile understanding of architectural design without the intrusion of Le Corbusier's "false images." In this expanded domain of knowledge, traditional architectural tools sometimes seemed obsolete, especially those which depended directly on visual concepts. More recently, however, the pendulum seems to have reversed its swing, and there has been a "revival" of the drawing which appears to have more significance than a mere turn of fashion. It represents a revised perception of architecture and a fading of the anti-historical bias which marked the revolutionary decades.

The translation of ideas about form into actual physical reality is quite unique to architecture. In paintings the painter is directly involved in making the picture. But architects make reality by proxy; they do not produce the actual physical form, but they are responsible for the symbols or codes which enable others to produce it. The ultimate test of design (the actual space and mass — finite and unable to sustain significant revisions) is distant and depends on others for execution. Therefore, drawings and models assume enormous significance as the study, clarification, and communication of creative intent. They represent the bridge between abstract thought and physical reality. Given the perceptual difficulty of imagining space, surrogate modes of study through representational techniques gain added importance as instruments of the mind's eye in the architectural process.

When viewing architectural drawings, including those on the following pages, one is easily seduced by their beauty and elegance. However, it is wise to remember Gaudet's warning that a plan is not beautiful as architecture simply because of a striking pictorial outline or arrangement on paper. Expression is quite legitimate and

**John Woolson Brook**
**Theodore Roosevelt High School Perspective, 192**
**Ink and watercolor wash on paper 12"x 31¼**
**Brooks, Borg and Skiles Archive**
**Des Moines, Iow**





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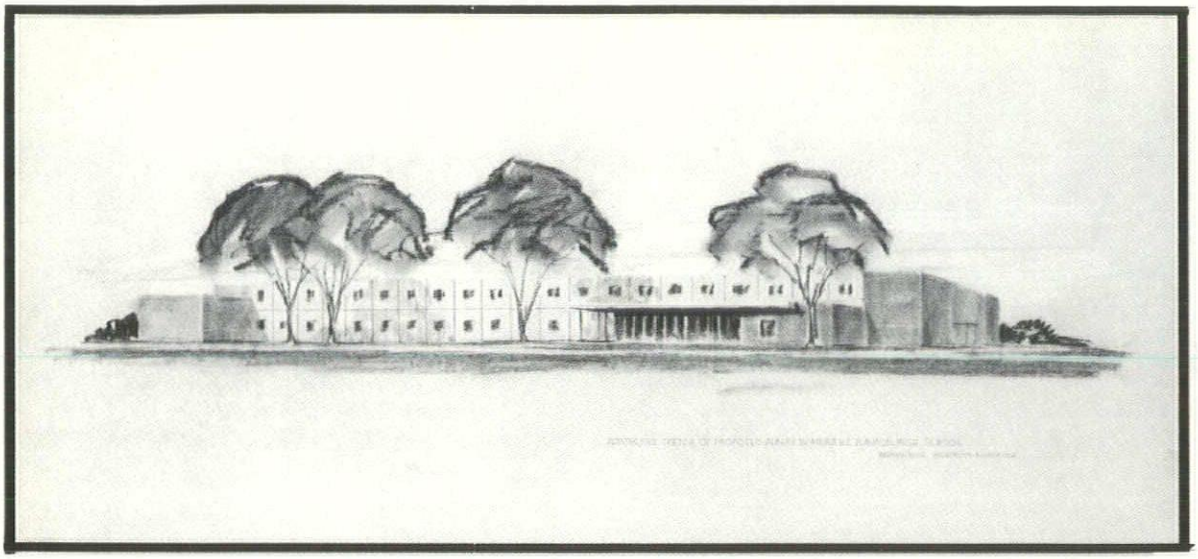
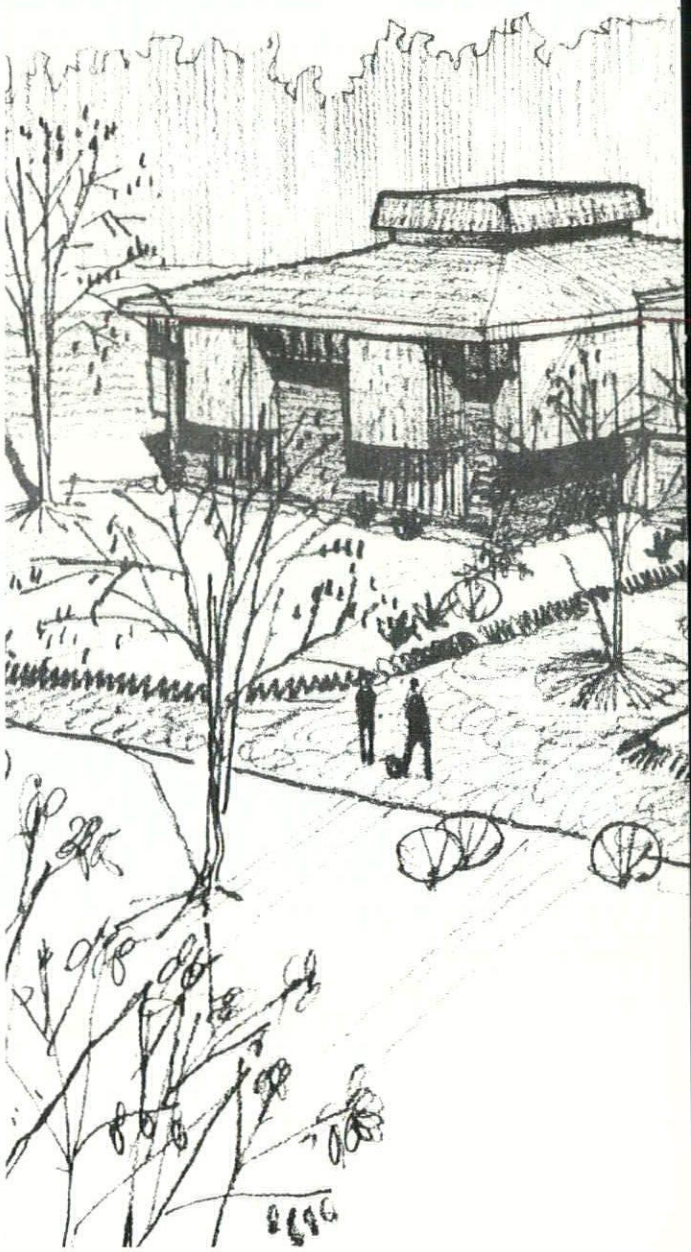


**Unknown**
**Albert W. Merrill Junior High School, Des Moines, Iowa**
**Perspective, 1959**
**Pencil and conte crayon on colored board, 17½"x 29½"**
**Brooks, Borg and Skiles Archives**
**Des Moines, Iowa**

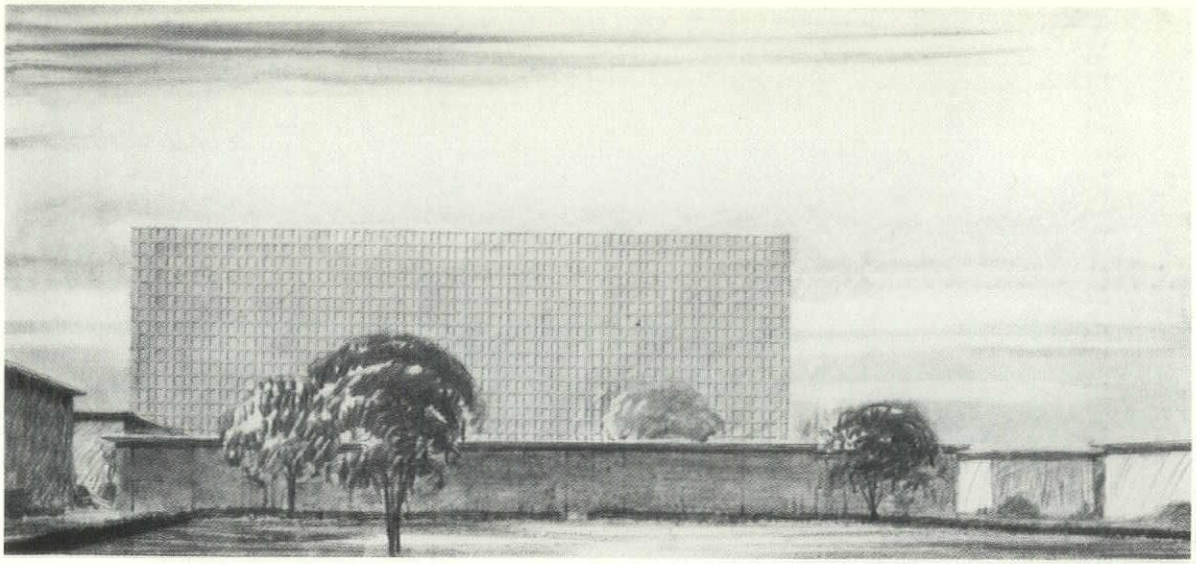
contributes to the beauty of plan, but plans are beautiful because of what they imply as architecture, just as books are beautiful by what is read therein, or a musical score beautiful by its contents and not by the arabesque arrangements of the notes. Moreover, it is easy to forget that some of the most exquisite architectural drawings are reflections of an inner struggle to comprehend the mystery of polysensory space, or mass, revealed by light and shade.

Therefore, in architecture, the medium is decidedly not the message. But the message of the medium — that is, the process by which architectural form is conceived — is extremely important, and to some extent determines the nature of the architecture which emerges. As Kahn observed, the character of the architectural product "is as a testimony of its making, the image of the tools and methods deployed, reflected in the product."

A list of non-verbal tools would include: conceptual sketches, diagrams, orthographic projections (plans, sections, elevations), perspectives, axonometric and isometric drawings, models, photographic or film representations, montages, electronic simulations, and contract documents (the physical representation of the building from which others work.) Some or all of these tools may be used as needed in the architectural process. However, according to the task or artistic temperament, some will be more influential than others in generation of architectural ideas. One could say, at the risk of oversimplification, that those buildings studied mainly through the plan are likely to end up as stacked or



**Scott Stouffer**
**Children's Home, Des Moines, Iowa**
**Perspective Study, 1963**
**Pencil on watercolor paper**
**Collection of Charles Herbert and Associates**
**Des Moines, Iowa**



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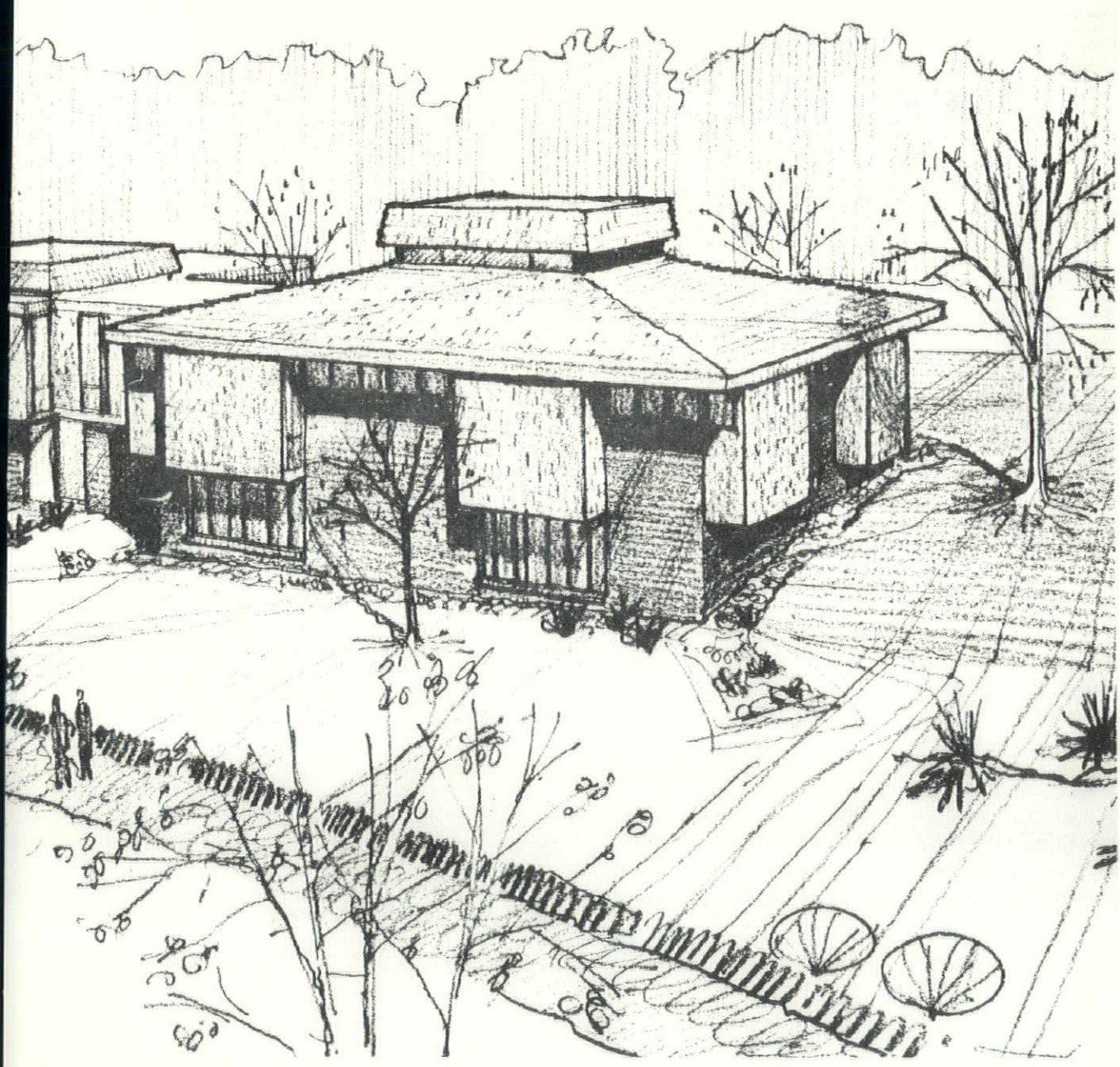

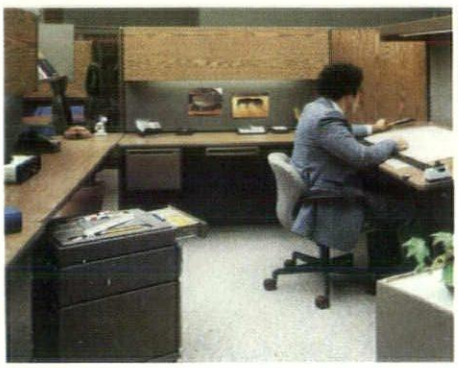

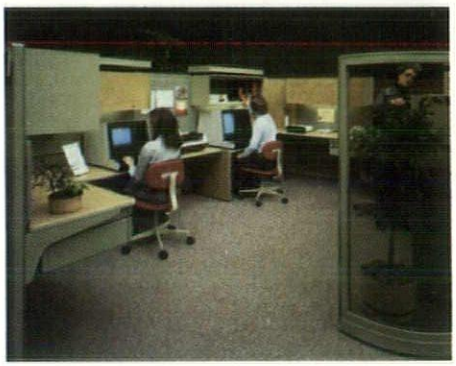

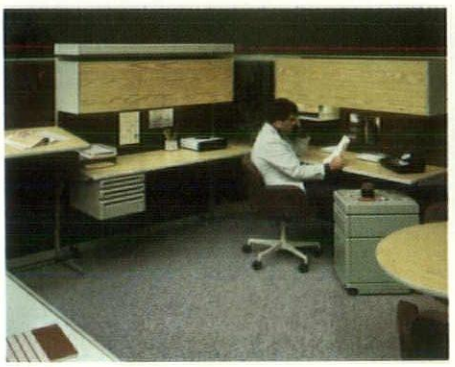

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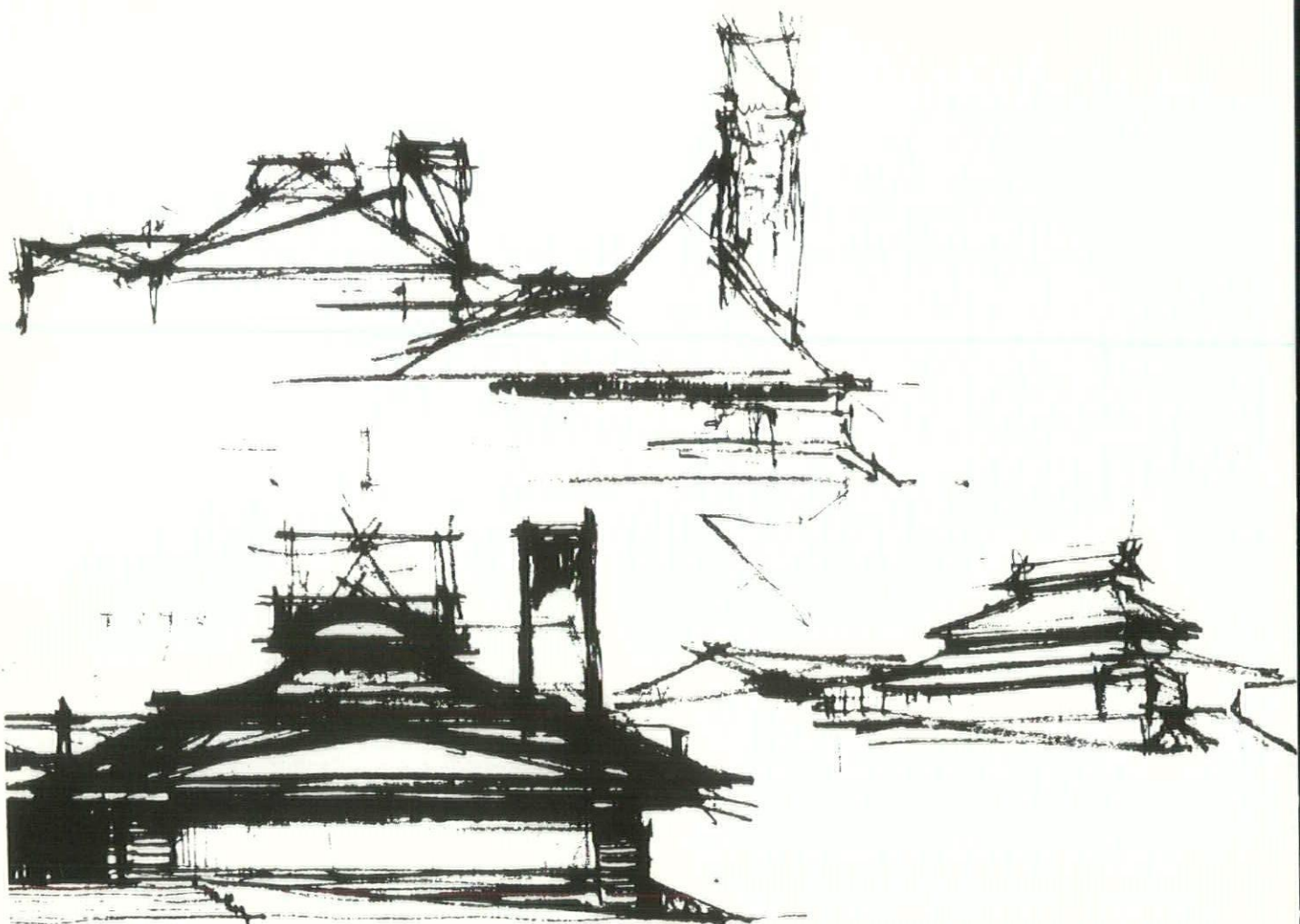


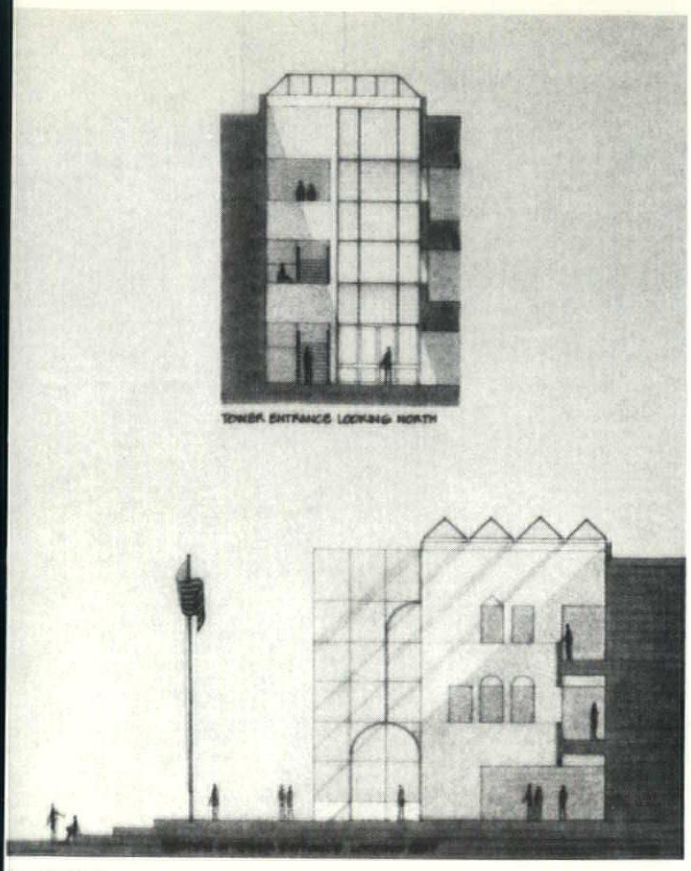
**Lawrence Ericsson**
**Church Project**
**Elevation Studies**
**Pencil on yellow tracing paper, 12"x15"**
**Collection of Wagner, Marquart,**
**Wetherell, Ericsson, Architects, Des Moines, Iowa**

layered architecture. (It is important to remember that plans are conceptual notations, not representations.) It is often said that most contemporary office buildings are generated almost entirely through study and multiplication of a typical plan.

Those architectural processes generated mainly by section (also a conceptual tool because one never actually sees a section) tempt the architect to think in terms of horizontal extrusions. These extrusions sometimes tyrannize the three-dimentional development of an architectural theme. As buildings generated by the plan can easily become vertical extrusions of a concept, buildings studied and developed predominately in section are liable to become horizontal extrusions of a concept.

Buildings generated principally by elevations (orthogonal projections of physical reality) may recall abstract form memories or projections. Much of what is considered "traditional" architecture — that is, nineteenth century eclectic architecture — generated forms by invoking historic images and arguing for their appropriateness. In the tripartite tradition of architectural drawing method, which employs plan, section, and elevation, the elevation is the only one which purports to be a representation of reality. In the four or five decades of modern architecture, the elevation has been one of the least popular manipulations because it embodies precisely the eclecticism against which the modern revolution argued so powerfully.

Much of the architecture generated through the making of perspective drawings has been linked to the tradition of romanticism. The influence of Piranesi's etchings — which, significantly, recorded his fantasies about history — or of Pugin's drawings of the Gothic, opened up a whole range of architectural work celebrating emotion and the picturesque through the use of perspective. Perspective, originated in the Renaissance, is of all architectural tools the most subjective and the most likely to carry the imprint and distortion of its creator. Thus it has invited the highest level of suspicion in the modern movement. One form of perspective is the "artist's conception," a commercial tool which holds pictorial promise of the future through manipulation of superficial and anecdotal references. Though this is the most ac-



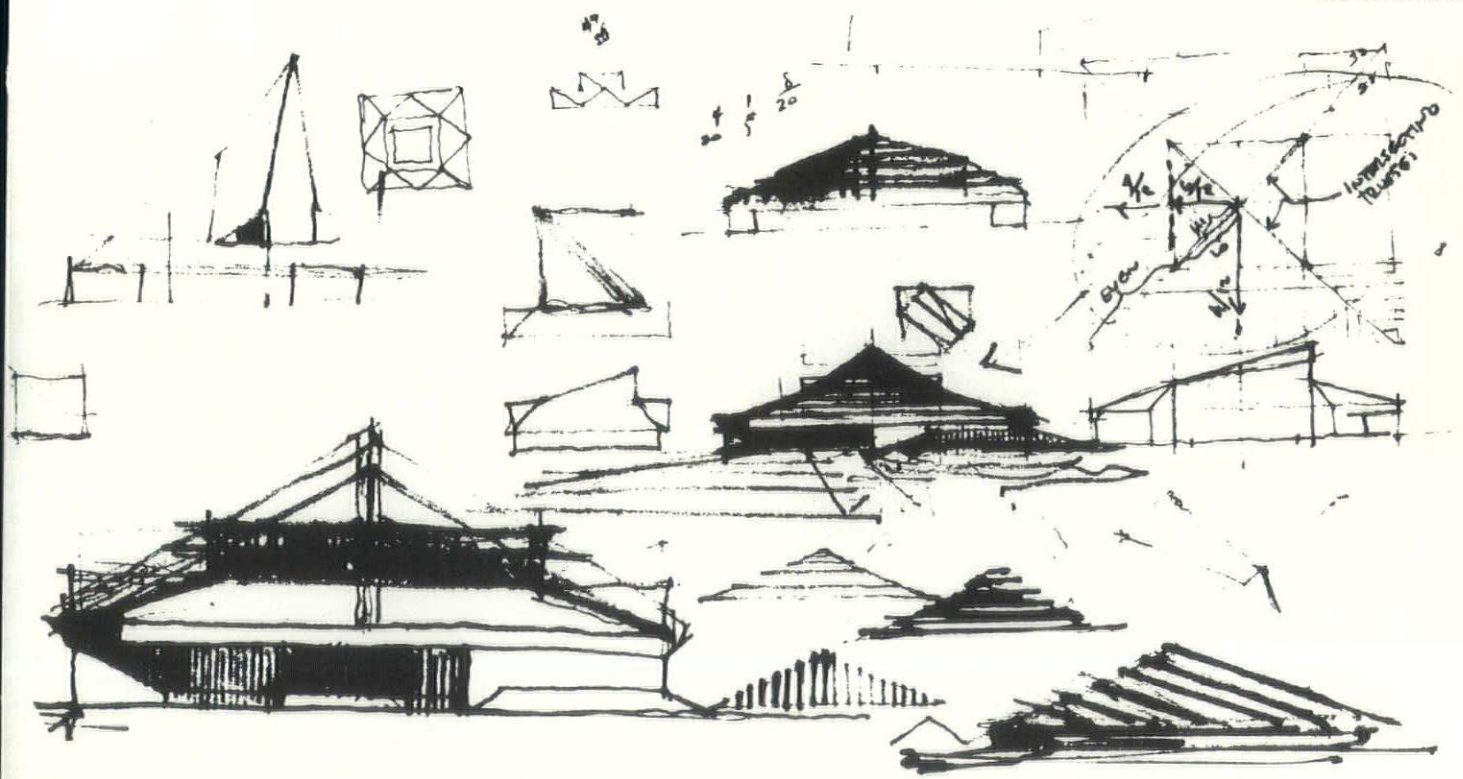
Tom Baldwin
Meredith Corporation, Des Moines, Iowa
Elevation Study, 1977
Pencil, colored pencil and felt tip marker on yellow tracing paper, 14"x 17½"
Collection of Charles Herbert and Associates
Des Moines, Iowa

cessible form of drawn architecture to the lay public, too many times it may be responsible for the sale of untested architectural improvisations.

The axonometric view introduced around the turn of the century was celebrated as a great advance in architectural technique because it represented the highest level of rational and analytic information about built form. The axonometric "picture" avoids the picturesque because the information it contains is theoretic and drawn to scale. Choisy's drawings allowed architects to think of graphic manipulation as a dependable, objective tool. Architecture which has its origins in the axonometric projection may demonstrate a somewhat detached, speculative, and abstract character.

Certain building forms generated almost exclusively by model may show uncertainty of, or indifference to, scale. After describing the limitations of drawings as means for representing architectural space, Bruno Zevi noted that, "on the other hand, we cannot say that models are completely satisfactory. They are very useful and ought to be used extensively in the teaching of architecture. However, they are inadequate because they neglect an element crucial to any conception: the human

John R. Ratcliffe
Ankeny Christian Church
Elevation and Roof Studies, 1979
Pencil on yellow tracing paper, 6"x 12"
Collection of Brooks, Borg and Skiles
Des Moines, Iowa



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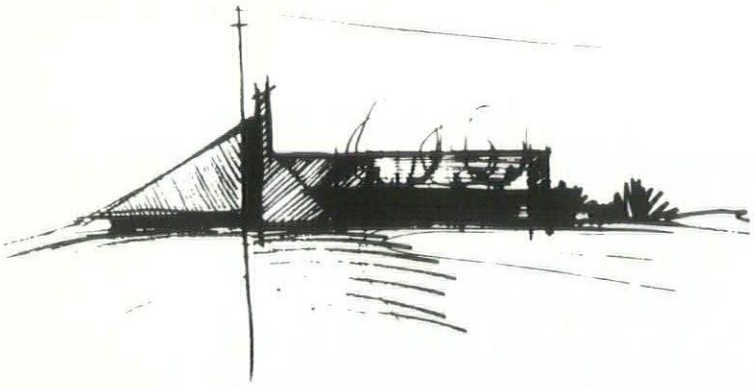


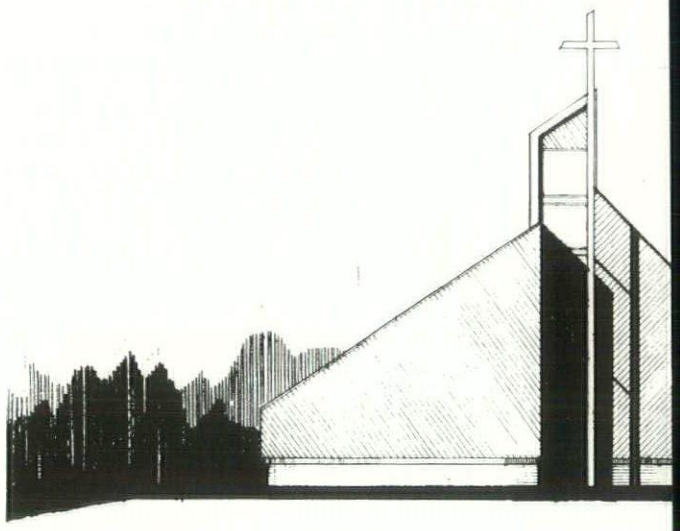
William Nowysz
Bloomfield Methodist Church, Bloomfield Iowa
Perspective Study, 1979
Pencil on white tracing paper, 6"x 10"
Collection of Wehner, Nowysz, Pattchull and Pfiffner
Iowa City, Iowa

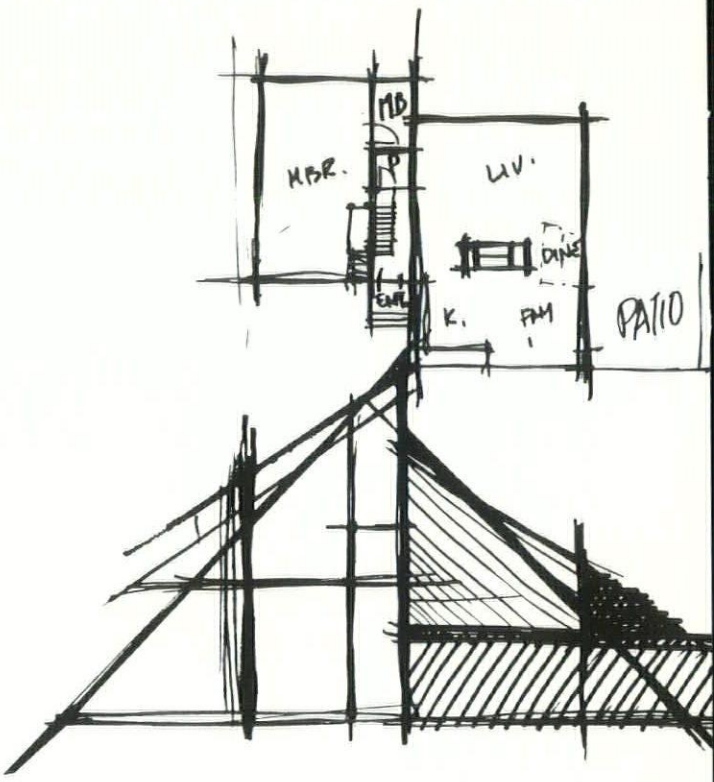
parameter, the interior and exterior human scale." The model, a most seductive tool because of its genuine three dimensionality, can deceive if permitted to dominate the creative process, for it represents only a plastic toy, something to be looked at rather than to be entered.

Diagrams are helpful tools for exploring a few selected attributes of the contemplated architectural order. In some processes, however, the simplicity achieved by diagrammatic reduction of complex problems terminates the elaboration prematurely. Some buildings reflect this preemption of the process and disturb our sensibilities as "built diagrams."

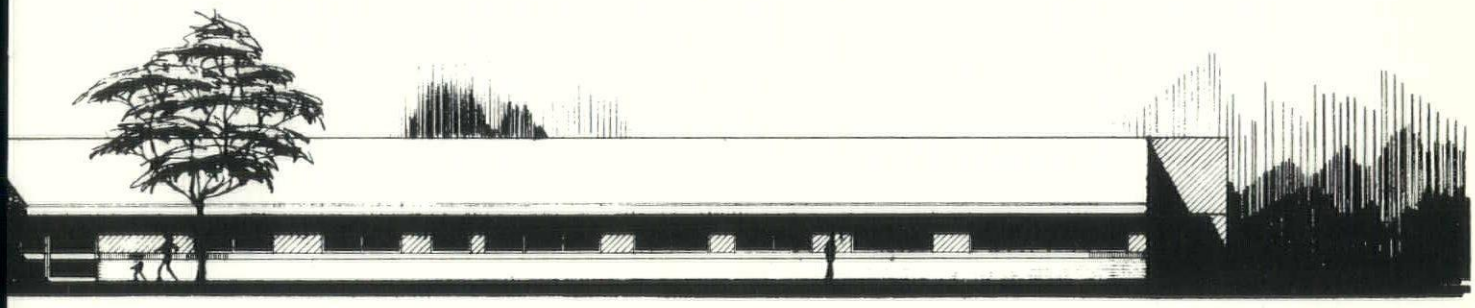
This century has evolved new means for generating images. The yellow trace must be mentioned for, interestingly enough, this device is a relatively recent and influential development. It has provided the opportunity to make overlays, which has led to a new interaction among the drawings themselves in the creation of form. The "layered transparencies" in much modern architecture may well be the direct result of the use of yellow trace.

The computer holds great promise, but the skilled architect can still draw circles around the machine and can function more effectively at high levels of design decision-making. Computer simulation may ultimately be salient, but to date the computer's contributions have remained in the realm of analytic tasks and design information, the production of working drawings, specifications, cost analyses, perspective and axonometric simulation, etc. The holograph will compete with the full-scale mock-up only if and when it becomes cost effective. In addition to photo-montages, photographs and film sequences, videotape and closed-circuit television observations of specially built models became useful, but costly devices in the Sixties. With special optics these techniques promise to be practical in the simulation, especially the eye-level views of projected built environments, testing the character of spaces, light qualities, the fit between existing context and planned intervention, etc.






William Nowysz
Burgher Residence, East Amana, Iowa
Elevation Studies, 1980
Pencil on yellow tracing paper, 8"x10"
Collection of Wehner, Nowysz, Pattschull and Pfiffner
Iowa City, Iowa

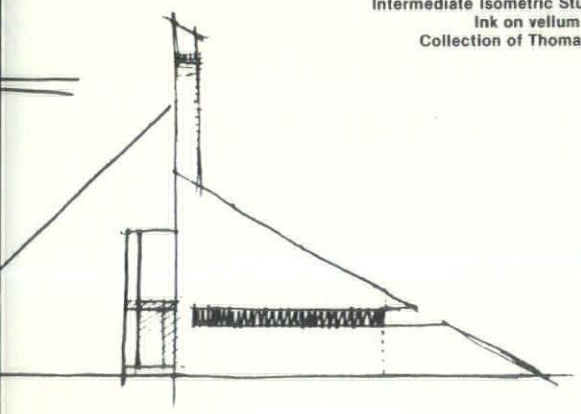


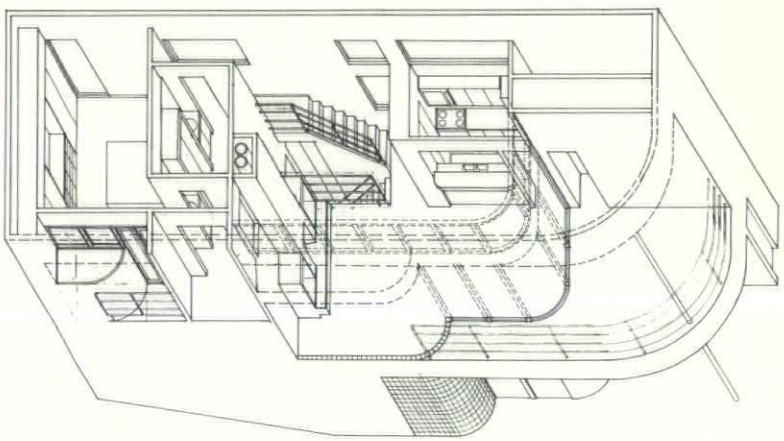
**William Nowysz**
**Bloomfield Methodist Church, Bloomfield, Iowa**
**Elevation, 1979**
**Ink on vellum**
**Collection of Wehner, Nowysz, Pattschull and Pfiffner**
**Iowa City, Iowa**

It is difficult to overemphasize the deep interrelationship between the perceptual process and the selection of tools or media. Even in the type of pencil, brush, or pastel, one can detect some interaction between image and form. For example: soft pencil, brush, wash, or chalk will generate a more plastic imagery. Eric Mendelsohn's drawings and Bernini's washes are both exemplary of a rhythmic, plastic and almost sensuous form of imagery. On the other hand, the hard ink or graphite line invites more readily architectural concepts controlled by hard-edged geometries. Even the size of the drawing may have an important impact on the physical form which its subject ultimately takes. Drawings which are too small usually end up being very diagrammatic and general; drawings which are produced on a very large scale are often overly specific, and lose their context.

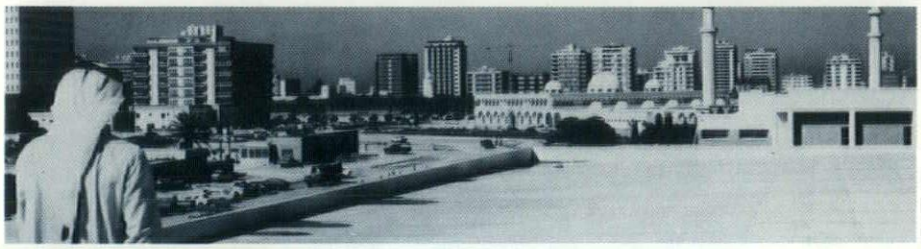
Finally, it is helpful to consider the role of conceptual sketches. These seemingly simple drawings, sometimes scribbled hurriedly, represent a strong point of view in the design process, a bias, an opinion; which referes to certain ideas in a diagrammatic and poetic fashion. The conceptual sketch plays a major role in the generation of all subsequent images, and therefore can be considered one of the most important moments in the making of architecture. It is a moment in the creative process in which, according to Herbert Spencer's definition, "accumulated facts, lying in disorder, begin to assume some order when a hypothesis is thrown among them." Describing this moment in another context, Paul Klee said, "The secretly perceived is made visible." Jung adds an additional dimension: "Such things cannot be thought of, but must grow again from forgotten pasts."

**Thomas Clause**
**Private Residence, Clear Lake, Iowa**
**Intermediate Isometric Study, 1980**
**Ink on vellum 24"x30"**
**Collection of Thomas Clause**

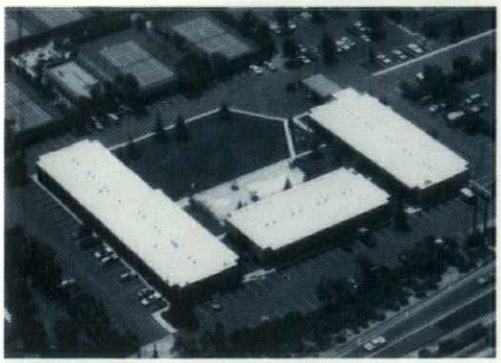




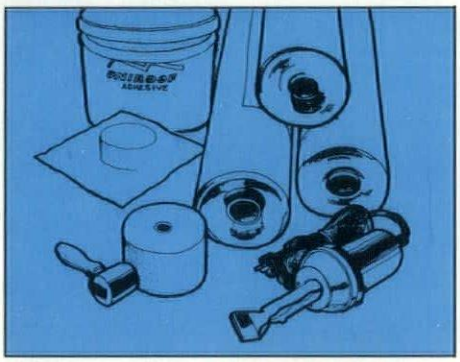
# UNIROOF



Uniroof atop Main Post Office, Abu Dhabi, United Arab Emirates.



Uniroof applications in U.S. include this Rodeway Inn, Claremont, California.



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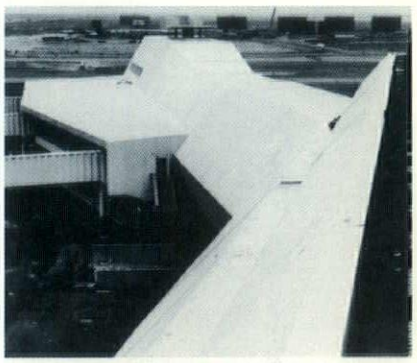

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## 1980 FALL CONVENTION SCHEDULE*
## STOUFFERS FIVE SEASONS HOTEL
## CEDAR RAPIDS, IOWA

**Thursday, October 30**

| | |
|---|---|
| 8:00 a.m. | Exhibitor set-up<br>Jury of design award submittals |
| 4:00 p.m. | Executive Committee Meeting |
| 6:00 p.m. | Pre-registration |
| 7:00 p.m. | NECA / MCAI cocktail party |

**Friday, October 31**

| | |
|---|---|
| 8:00 a.m. | Registration |
| 9:00 a.m. | Welcome |
| 9:30 a.m. | Speakers:<br>Stanley Abercrombie, Senior Editor, *AIA Journal*<br>James A. Murphy, Managing Editor, *Progressive Architecture*<br>Charles Hoyt, Associate Editor, *Architectural Record* |
| 11:00 a.m. | Visit Exhibits |
| 12:00 | Lunch in exhibit area |
| 1:00 p.m. | Visit Exhibits |
| 2:30 p.m. | Design awards critique |
| 6:30 p.m. | Cocktail party |
| 7:30 p.m. | Banquet<br>Tom Ecker — Speaker<br>Design Awards presentation |

**Saturday, November 1**

| | |
|---|---|
| 8:00 a.m. | "Bloody Mary" breakfast |
| 9:00 a.m. | Continuing Education: *Energy Efficient Design* Dave Dulaney, Prof., Iowa State University |
| 10:00 a.m. | Break in exhibit area |
| 10:30 a.m. | Chapter meeting |
| 11:30 a.m. | Adjourn |

*An exciting program for spouses will be included with registration information

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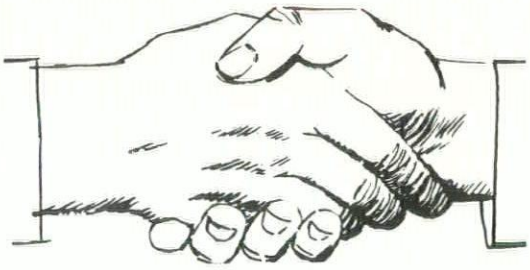

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Ruth S. Foster
Landscape Consultant

# Roots: Caring For City Trees

Forestry conjures visions of the woodsman surveying the emerald seclusion of Evangeline's forest. No more.

Lumber production, once the main concern of sylviculture, has taken a back seat. More and more specialists have come to appreciate the psychological necessity of trees in the city, and now they're good business. Nationally, the budget spent on urban trees each year approaches $500 million.

Urban forestry is a new discipline based on a synthesis of many familiar subspecialities: biology, forestry, architecture, city planning, park management, sanitary engineering. It represents a new perception of an old problem. With the establishment of the national Metropolitan Tree Improvement Alliance in 1975, urban forestry has come into its own. According to Frank Santamour, head of tree research at the National Arboretum in Washington, D.C., "M.E.T.R.I.A. represents the first joint effort of forestry, research, arboretum, nursery and park experts, working together to provide and use better trees on the streets." Twenty-eight forestry schools now offer special courses in the field.

Urban forestry does not mean no-growth. Environmentalists are often accused of wanting us all to freeze in the dark, while the giants of industry want us to choke to death in overheated skyscrapers. Urban forestry belongs to neither camp. Instead, it attempts to make cities more habitable by creating growing environments, filled with plants most likely to thrive.

Urban forestry is not mysterious. And it is no more expensive than creating barren, wind-swept plazas where nothing will grow. It requires an understanding of biomass production in planning cities and breeding trees. It involves basic street layout, sewer drainage, engineering and architectural design, and studies of soil, wind, sunlight, and temperature. Finally, it depends upon plants that are genetically suited to the growing pockets that have been made for them.

Urban forestry also means accepting that in some places, trees will be too costly. When trees cannot survive without great expense or constant replacement, they ought to be planted elsewhere. For example, in Boston's red-light "Combat Zone" — site of the original Liberty Tree in 1775 — five trees were planted on a little brickpaved island. Because of complicated underground wiring, the trees had to be placed in concrete tubs that must be removed by cranes when the wires need repair. Total cost of installation: $200,000 — probably more than the tiny oasis is worth.

**The Tree Factory**

Trees are an energy system. And they provide cities with practical as well as aesthetic benefits.

The life processes of trees influence both climate and air quality. A mature tree has been estimated to cool a volume of air equal to five 10,000-watt air conditioners, by evaporation of water from the leaves. It is estimated that if Richmond, Va., replaced its trees with airconditioners, its energy bill would be $800,000 a year.

Convection air currents produce cooling breezes under trees on even the hottest days: the temperature drops 10 to 20 degrees underneath. Carbon dioxide is absorbed and oxygen given off, improving the ambient air quality in cities. The leaves absorb pollutants and particulate ash. They also absorb solar energy in summer that would otherwise be radiated from pavements and buildings as heat. In winter, being leafless, they conveniently allow solar energy to penetrate and warm the surrounding masonry.

**City Ecosystems**

The city ecosystem is made of the same parts as the forest where trees normally grow. It has its own particular soil, prevailing wind, compass orientation, hillside or mountaintop site, watershed configuration, and plant communities. In the forest these aspects are solely nature's creation. In the city they are manmade, so that who built what, when and what they left underground may be more to the point than the traditional questions foresters ask.

By and large, cities are warmer than their surroundings. The reason? Cities experience a "heat island" effect, absorbing the energy used to heat buildings, run autos, and power equipment. The concrete absorbs additional heat from sunlight and holds it. At night, radiation heat loss is minimized by heat held by buildings and pavements. The air temperature stays higher. Smoke, smog, and too much carbon dioxide further inhibit outward energy flow.

Fact: The average survival of trees in the city is ten years

Fact: The engineer is the most common cause of urban tree death

# Extending The Life Expectancy Of A Growing Urban Forest

Because cities are warmer, they are congenial to tender plants. But plants that need a cold winter — such as certain birches — may suffer. In the forest, clustered trees shade one another's trunks. But in cities, trees are bathed in direct and reflected solar energy each day of the year. Cells that should remain dormant and frozen are continually thawing and freezing. Frost cracks and sunscald are common, particularly on young trees whose bark has not had time to thicken. Winter sun and wind are both desiccating and disruptive of dormancy. The result is many dead buds and twigs when spring comes. The damage is not usually fatal, but biomass production is seriously compromised.

In summer, the alternate effect takes place. There is slower cooling at night. The sun heats the plants by day; the concrete sidewalks and buildings absorb heat and keep the nights warm. More water is necessary for healthy growth. It is rarely available.

Consequently, city trees often adopt the growth habit of the desert. Smaller new leaves and shorter new growth conserve moisture. The bark and stems thicken. The tree begins to be stunted. Energy is not devoted to new vigorous growth, but instead to seed production to insure the survival of the species in the stressed environment.

While some spots have too much sun, some have too little. Photosynthesis does not occur below 50 foot-candles. Plants on the north side of tall buildings may get only two hours of sun on the day of the summer solstice, less the rest of the year — not enough to sustain healthy growth. These plants are candidates for continual replacement. Artificial light can help. For example, areas under the sodium vapor lights used for traffic control can be planted, and the energy used for two purposes at once. Further some plants grow better in heavy shade than others. They must be specified at planting time.

Advance planning is the key to healthy city plants. On the drawing board it is easy to create wind baffles, provide water runoff through planting areas, and plan for winter shade and summer sun protection. The best sites on the east and south can be saved for planting. Trees suited to desert tolerance may be used or developed.

**The Stress Response**

The stress response is the cumulative effect of the urban environment on trees. The trees grow less, mature too early, and die too soon. In their weakened condition, they are easily killed by any fungus or insect that happens by. While the stress response is familiar to foresters, its effect in the urban setting is just being investigated.

In the forest, insects and fungi usually attack weak or diseased trees, thus clearing room for healthy new growth. Insect, fungus, and plant co-exist, each serving to preserve themselves, one another, and thus the forest. Clear-winged moths, for instance, are secondary attachers of ash trees in the forest; healthy trees are rarely attacked. However all urban trees fall prey to the moths, which are genetically pre-adapted to go for stressed trees.

While the coup de grâce for most urban trees is usually fungus disease, the real culprits are the conditions causing stress syndrome. Some of the most common stresses are described in some detail below. Bioengineering can relieve many of them; a Machiavelli is needed to solve the others.

*Water stress:* It is no accident that trees grow fastest in tropical rain forests, since water is the major constraint upon weight-volume production. In cities, soil compaction is endemic and renders the soil unable to absorb rain. Sidewalk trees must survive on whatever they can take in through their tree pits. But the average city pit is 3 ft. by 2 ft., or 3 ft. by 3 ft., so the amount of water directly absorbed is inadequate.

Simple remedies are available. Sidewalks can be graded to drain into tree pits, instead of into the streets. Gutters can have scupper holes which course water to the trees. But scupper holes don't work if salt is used heavily; in that case, tree pits should be curbed above the runoff and salt resistant species planted.

Simple engineering can provide inexpensive irrigation. No use is made now of gutter or roof runoff water; it is piped directly into storm sewers. If it were directed through the tree pits, trees would be watered and the total load on the storm sewers lessened. Shalimar and the other famous terraced gardens of the Kashmir use

water from the Himalayan mountains to course down from one level onto the next, and so on. The same water is used again and again for irrigation at each level. We pipe roof water out and irrigate with faucet water which has been purified — at a great expense — for drinking.

In parks and open spaces, water stress is not so acute as in sidewalk pits and planters. However, even there an underground water table makes the difference between good and stressed tree growth. Surface rainfall is rarely adequate to cover summer evapotranspiration rates, and so prevent an early cessation of the spring growth spurt, and a too early fall dormancy. Both are triggered by less and less water, which causes the tree to misread the seasons. Reflected heat augments the problem. The city trees grow less and suffer leaf scorch early. The loss of leaf tissue compromises food manufacture. The growth cycle changes. Vigor declines.

Obviously, additional loss of leaf surface from pollution or disease worsens the syndrome, so that it becomes a self-generating cycle. A healthy tree could put out a second flush of leaves and make adequate food for the next year. Without underground water resources during summer, the city tree will not have the reserves to cope.

Too much water can also be a problem. Tree roots require gas exchange to metabolize properly. When the air spaces in the soil are constantly filled with water, the roots drown and finally rot. Some trees — elm, red maple, gum, and willow — will survive intermittent flooding and airless roots better than others. Unfortunately, most are unsuitable for city streets. Willows clog sewers and water lines. Elms are prone to Dutch elm disease. Red maples are salt sensitive. Sweet gum alone is successful, although it may have difficulty maintaining vigorous growth in compacted soil.

If all city water is piped to sewers, what is the source of flooding? Some pits are dug in impervious soil. (For this reason, cherry trees planted in a new residential development on Welfare Island in New York City did poorly. It turned out their tree pits drained into impervious rock.) And planters may have inadequate drainage. Both these conditions may be relieved by layering stone and charcoal under the soil; drainage holes are better yet.

Most commonly, flooding results from poorly designed irrigation systems. Most systems are designed for golf courses which must be kept lush and green. Water percolates through the grass roots in the top 8 in. of soil and runs back into lakes and streams. In the city, while water also percolates, it may not run off.

In addition, irrigation must complement usual rainfall patterns. For example, on Commonwealth Avenue in Boston, 100 ft. tall elm trees were lovingly treated to a costly irrigation system — about $100,000 per block. An enormous amount of root damage was done during construction. When the system became functional, it was set on automatic timers that watered the mall each night, but no one calculated the total amount of water delivered. After a few years, many huge trees began to fail: their leaves were small; their new growth weak; the roots were rotting. A simple calculation showed that 8 in. of water monthly was being deposited during June, July, and August for a total of 24 in. Yet, the average rainfall for that period was only 9.87 in. and the average evapotranspiration only 16.56 in. So irrigation was needed to fill a total deficit of less than 7 in., and the irrigation time had to be quartered. To further complicate matters on Commonwealth Avenue, the mall is only a few feet above sea level on a filled tidal bay of silt and clay. The large trees were accustomed after 65 years to live on the 9.87 in. of rainfall. Suddenly the soil was always drenched. It never drained. The trees languished.

At Boston's Faneuil Hall, another air transport and irrigation system problem developed. The marketplace is also only a few feet above the original harbor salt flats; the area was part of the original settlement of Boston. It was filled early in the city's history and has since been paved. When new tree pits were first dug, they filled up with water during high tide. The new irrigation flooded the near trees and didn't reach the far ones. When the engineering was corrected the trees became ill — not from flooding, but from hydrogen sulfide gas escaping from the disturbed tidal muck below. The trunks had to be slit from top to bottom and the planting pit enlarged to let the gas escape.

*Wind stress:* In nature, most trees shun windswept slopes, particularly the deciduous trees commonly

planted on city streets. But in the city, each avenue creates a minor wind tunnel. The taller the buildings, the greater the canyon effect.

Winter winds are several compass points different from summer ones. Tall buildings either funnel or baffle them. Trees planted in the path of the winds are desiccated both winter and summer. Some survive, some languish, none thrive. Another row of trees grows behind a low building, which blocks the winds. Flowers are planted around the bases and are watered during summer. Those trees thrive. The original plan should have provided for trees only in protected spots.

*Construction:* Planning suitable locations for trees is important, but protecting those that have managed to establish a foothold is necessary as well. Insensitive engineering and lack of concern by contractors kill more trees than anything else. Where building specifications say, "protection of existing trees," they usually mean "try not to back the bulldozer into them."

Protection of the existing urban forest begins in the Public Works Department. Tree roots are constantly disturbed by roads, sidewalks, utility lines, bus stops, traffic signals, parking lots, parking meters, sewers, drainage, curbs, and so on ad infinitum. Few consider that destruction of more than one third of the roots can be fatal. Top pruning (to balance root loss) and fertilizing is usually ignored in construction specifications. Grades are raised and lowered at random over roots. To raise the soil over living tree roots by more than 3 to 6 in. will probably smother them. The standard specifications, which usually call for 6 in. of loam and then sod, are just too much.

New trees' roots are often left exposed for weeks while new sidewalks are being put in. Old ones are chopped to fit into neat, standard pits. Decline disease, the trees' response to this kind of stress, sets in shortly. The larger the tree, the longer it can live on its stored reserves, but eventually decline becomes apparent.

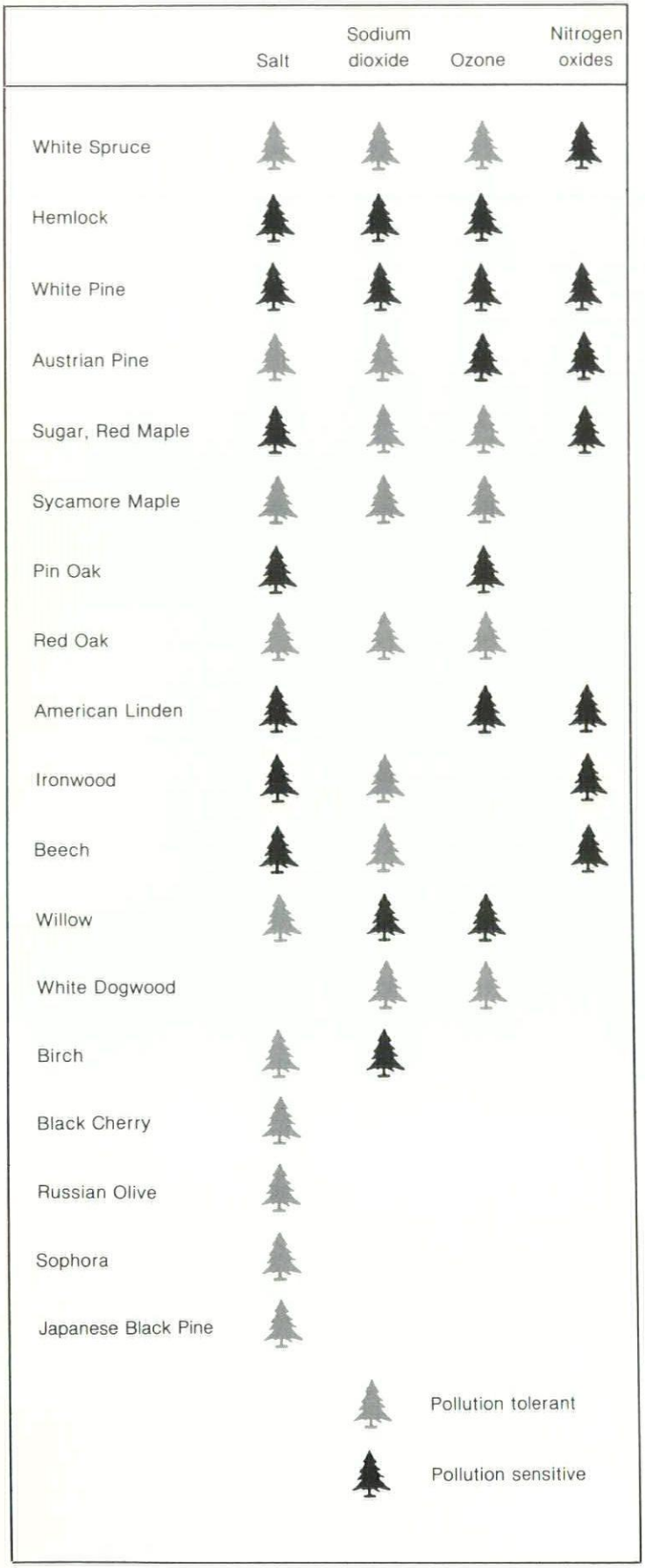
Permanent changes in air and water patterns compound the damage done during construction itself to the roots of established trees. Compaction during construction is endemic. If trucks aren't parked under the tree, bulldozers are. The preferred spot for storing sand, concrete, and pipes seems to be over the root system. Or it

**Drought-resistant trees**

| | | |
|---|---|---|
| Box Elder (Acer negundo) | 60 ft. | Weak-wooded; poor street tree; grows easily; drops too many seedlings which become weeds |
| Tree of Heaven (Ailanthus altissima) | 60 ft. | Grows anywhere; not beautiful; use female only |
| Silk Tree (Albizza julibrissin rosea) | 35 ft. | Attractive, low-spreading branches; feathery leaves; pink summer flowers |
| Modesto Ash (Fraxinus velutina glabra) | 35 ft. | Satisfactory; withstands alkaline soil |
| Honey Locust (Gleditsia triacanthos) | 80 ft. | Excellent street tree; small leaves; easy to move; "Moraine" most resistant to webworm |
| Golden Rain Tree (Koelreuteria paniculata) | 30 ft. | Good street tree; flowers in summer; weak-wooded; hard to transplant |
| Chinaberry (Melia azedarach) | 45 ft. | Tough; grows quickly; drops too many seedlings |
| Pagoda Tree (Sophora japonica) | 75 ft. | Excellent street tree if pruned to high crown; summer flowers |

**Shade-resistant trees**

| | | |
|---|---|---|
| Vine Maple (Acercircinatum) | 25 ft. | Shrubby, small trees; not good for street but will better than most |
| Striped maple (A. pensylvanicum) | 35 ft. | |
| Mountian maple (A. spicatum) | 25 ft. | |
| Shadblow (Amelanchier canadensis) | 40 ft. | Useful if pruned to a single trunk |
| Dogwood (Cornus florida) | 35 ft. | Not a street tree; withstands city conditions if watered |
| Pin Cherry (Prunus pensylvanica) | 35 ft. | Short-lived; tough; red fruit |
| Carolina Hemlock (Tsuga caroliniana) | 75 ft. | One of the only hemlocks that can grow in the city; needs water, wind protection |




**Pollutants may seriously inhibit the growth and longevity of urban trees. But susceptibility and symptoms vary with each pollutant and each type of tree, as the table above shows.**

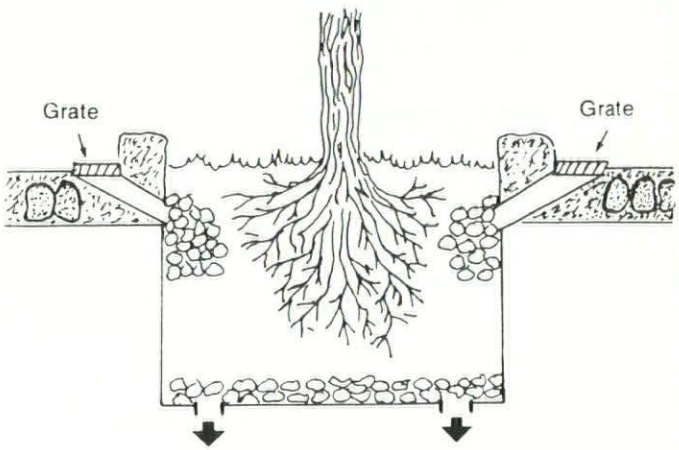
is the preferred spot for lunch. After a few months of lunch, the soil is compacted to concrete-like hardness that defies passage of air or water.

*Compaction:* In cities tree roots are in the cubic yard of loam in a tree pit, or in open ground, under the drip line (the farthest reach of the branches). The condition of the soil medium in which the roots grow determines their vigor. A good friable loam that absorbs water and has air spaces for proper gaseous respiration is required. In the city, soil is subject to continual compaction by the pounding of a thousand feet. Compression of vehicular wheels completes the universal squashing. Roots in compacted soil are especially subject to fungus attack, the prime agent of decline disease.

The treatment for compacted soil — whether caused by machines, feet, sporting events, or just nature lovers forever passing through — is aeration. The soil surface is broken open or scarified. Sand may be dug in or plugs of soil removed by machine. On tree pits, a mulch of wood chips or crushed stone absorbs some of the pressure while allowing air and water to percolate down.

*Pollution:* When people observe a sick city tree, they most often attribute the cause to air pollution. In fact, pollution is usually not the major cause of sickly trees in the city, except in areas that have high contaminant concentrations or very sensitive species. Given good growing conditions, most trees do reasonably well. However, pollutants do take their toll in growth rate and longevity.

Pollutants may be airborne gases, particulate ash, or chemicals in water. The worst offender is salt. It increases osmotic pressure in the soil and desiccates the roots. At lower concentrations, it causes the breathing stomata on the leaves not to close and conserve moisture. In summer, the plants continue to transpire in the heat of day. Too soon, the leaves brown at the edges, eventually dry up, and fall. These symptoms mimic severe drought damage. As might be expected, trees that survive near the sea are most adapted to salt spray, and most salt tolerant in the city. Sugar maples were a favorite street tree in residential areas. With increasing




**An easy source of water for city trees is to equip gutters with scupper holes, as above; the result is a giant, self-watering pot. Water flows from the gutter through a grate, and filters through rocks to the tree's roots. The water then drains through rocks at the base of the tree pit.**

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| | | |
|---|---|---|
| **Littleleaf Lindens** (tilia cordata) | | **Easy to transplant, attractive** |
| Greenspire | 40 ft. | Excellent street tree; perfect shape; upright |
| Chancellor | 40 ft. | Narrow, pyramidal shape |
| Rancho | 40 ft. | Even narrower, upright shape |
| **Callery Pears** (Pyrus calleryana) | | **Excellent street tree; holds leaves through late fall** |
| Bradford | 40 ft. | Beautiful shape; oval, glossy leaves; fall color |
| Aristocrat | 40 ft. | New strain; better fall color and leaf shape |
| Chanticleer | 40 ft. | Narrower shape |
| Fauriel | 15 ft. | Dwarf; round head |
| **London Plane** (Platanus acerifolia) | | **Large; broad; not for narrow streets** |
| Bloodgood | 100 ft. | Only anthracnose-resistant strain; adjusted to cold, damp spring season |
| **Pin Oak** (Quercus palustris) | | **Only easily-transplanted oak; low, sweeping branches** |
| Sovereign | 75 ft. | Only strain with upright branches; suited to streets |
| **White Ash** (Fraxinus americana) | | **Good street tree; reliable; tough** |
| Rosehill | 70 ft. | Bronze fall color; seedless; oval shape |
| Autumn Purple | 65 ft. | Purple fall color; seedless |
| **Green Ash** (Fraxinus pensylvanica) | | **Pretty shape; needs less water** |
| Marshalls Seedless | 55 ft. | Rapid growth; drought tolerant; yellow fall color |
| Summit | 60 ft. | More upright; narrower crown less vigorous |
| **Norway Maples** (Acer platinoides) | | **All varieties transplant easily; yellow fall color** |
| Emerald Queen | 60 ft. | Upright; oval head; rapid growth |
| Cleveland | 50 ft. | Slower growth |
| Summershade | 60 ft. | Broader; resistant to leaf scorch; rapid growth |
| Greenlace | 50 ft. | Cut-leaf; upright |
| Crimson King | 40 ft. | Wine-colored leaves all seasons; slower growth |
| **Red Maples** | | **All red maples require more water; red fall color** |
| Armstrong | 35 ft. | Narrow; rapid growth |
| Autumn Flame | 60 ft. | Small leaves; colors and defoliates early |
| Gerling | 35 ft. | Similar to Armstrong; wider shape |
| October Glory | 50 ft. | Green, glossy leaves; globe-shaped; good fall color; (Lately there have been problems with the graft between roots and top stock.) |
| Red Sunset | 50 ft. | Persistent red foliage; pendulous leaves; broad upright shape; rapid growth |

**Foresters are breeding clones that will be more tolerant of city stresses. Some of them are described above.**

urbanization, they are in trouble. They can be seen with their fall coloring, bright red, in the middle of summer.

Where road safety is a first priority, additional water is helpful to combat salt damage. Flushing with water in early spring will leach out some of the salt. From July on, when signs of damage appear, extra water will slow the typical drought response.

Gas pollutants and particulate ash have various effects. The damage is typically manifest as white spots on the leaves, the result of a loss of chlorophyll cells. But the symptoms are different for each gas and each type of tree. Sensitivity varies not only between species, but between different trees of the same specie. In cities, most airborne gases come from auto emissions. Oxides of nitrogen, sulphur, and ozone cause the worst problems. Since there isn't much foresters can do to diminish the gases, the next best alternative is to keep the trees healthy, so they can overcome the resulting tissue damage. Sensitive evergreens, which do not replace their chlorophyll-bearing tissue as frequently as deciduous trees, are hardest hit.

Particulate ash (soot) causes damage by clogging the breathing pores, and blocking sunlight from the leaf surface. Again evergreens suffer more. That's why there are so few large ones in cities. Hosing the foliage with water several times a year helps.

The importance of the stress syndrome interaction is nowhere more evident than in pollution tolerance. Stressed trees suffer more from the loss of food-producing tissue. As they become weaker, they become more stressed. The result of this vicious cycle is the ten-year average survival rate for city trees.

**Breeding Super-trees**

As the hazards to city trees become better understood, plant geneticists are able to breed new trees that will have greater tolerance of city stresses. Some trees such as callery pear seem to absorb certain air polutants without harm, and even to thrive under adverse conditions. Japanese trees like gingko, sophora, and katsura perform better than many of our native trees. Perhaps no specific antagonistic fungi have developed here yet to harm them.

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In Tennessee, white pines near coal burning plants were doing badly. (Most pine seed comes from a few breeding sources in the country.) The forestry station collected seed from local white pines that seemed healthy. Planted in a nursery near the power station, some did exceptionally well, while many others were poor performers. The sodium dioxide-resistant clones will be further refined and finally propagated.

Experiments with irradiated seeds, microscopically fused germ plasm, and manipulated chromosomes are producing new clones. Fortunately, many choices exist today, especially bred to perform well on city streets.

**Politics and People**

All of these biodynamic formulae are meaningless if we underestimate the impact of population — too many people on too little open space. The overuse results in soil compaction, vandalism, theft of plants, and vehicular damage. In areas where we want vigorous trees, land-use has to be restricted.

The more critical pressure is politics. Care, renewal, and replanting depend upon budget allocation. Sometimes landscaping budgets depend on whether it is an election year. While trees are a popular sign of loving municipal care, they usually take a back seat to more pressing budget needs. Expenditures vary with the pressures of the moment, or what-is-the-squeaky-wheel today? Well meaning citizens groups are as important as fertilizer in the renewal and care of the urban forest.

The most pernicious aspect of city politics is almost too familiar: bureaucratic incompetence and inefficiency, which are protected by politics, civil service, and unions. How does bureaucracy affect the urban forest? Most tree policy decisions are made by lower-echelon civil servants: a tree superintendent, a tree climber, a chief engineer, a public works commissioner, or a recreation supervisor. They rarely have adequate bioengineering expertise. Sometimes they hold patronage positions.

Furthermore, tree departments are traditionally concerned only with planting, pruning, and removing trees. Planners or city engineers decide on architecture and construction. One understands the growth of plants, the other the growth of the cities. Only by combining these skills can they make places where trees will grow.

*Ruth S. Foster is a landscape consultant specializing in ecosystem design. She worked for the city of Boston in 1968-69, and again from 1972-76, finally as Assistant Tree Warden. During 1970-71 she was a greenspace planner in Uganda and knew Idi Amin. While there, she designed a graden the elephants wouldn't eat.*

*Private contracts include institutions, conservation preserves, and homes, including an experimental solar house. A State Registered Arborist, she is urban forestry columnist for American City and County magazine, and writes a regular column for the Boston Globe. Currently she is at work on a book, Saving Energy Dollars Through Landscaping.*

*Suggested Readings:*

Andresen, John W., *Community and Urban Forestry Bibliography*, U.S. Dept. of Agriculture, Forest Service, Southeastern Area, 1974

*Better Trees for Metropolitan Landscapes*, Symposium Proceedings, Forest Service, U.S. Dept. of Agriculture Northeast Forest Experiment Station, 1976

Foster, Ruth S., "Bioengineering for the Urban Forest," *Metropolitan Tree Alliance Proceedings*, July 1976

Foster, Ruth S., "PLANREWW, A Bicentennial Tree Planting Program," *American Nurseryman's Magazine*, July, 1976

Foster, Ruth S., "Paving the Park Path" in Boston, *Horticulture*, October, 1976

*Journal of Arboriculture*, all issues

Pirone, P.P. *Tree Maintenance*, Oxford University Press, Third Edition, 1969

*Trees and Forests for Human Settlements*, Center for Urban Forestry Studies, University of Toronto, 1976

*Your Tree's Trouble May be You*, Forest Service, U.S. Dept. of Agriculture, Bulletin #372

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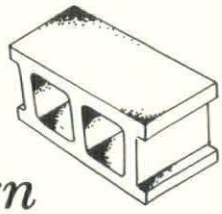

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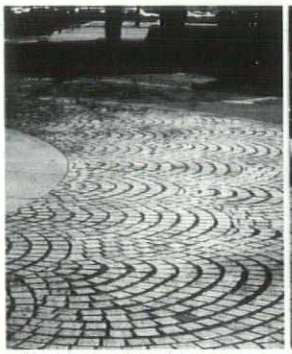
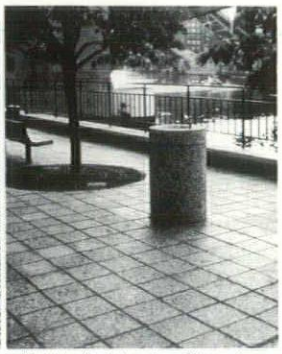
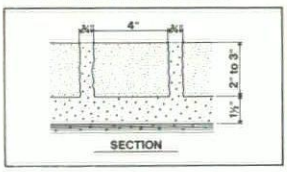
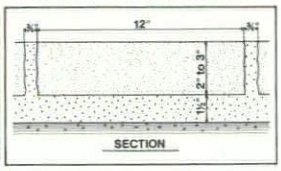


Architects: Lawrence Halprin & Associates



Architect: Joe Karr & Associates, Chicago, IL

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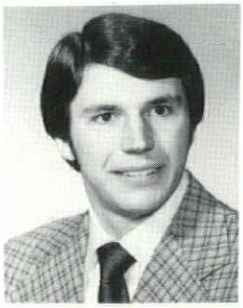

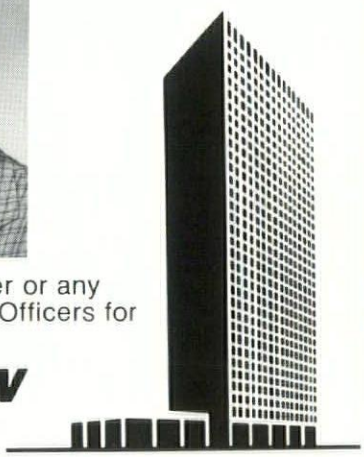

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# NEWS

## Why Design Awards?

Architects are notoriously poor at promoting themselves and their profession. Public and corporate awareness of architects and architecture is woefully inadequate.

One immediate solution is to concentrate our promotional effort on the media. They haven't responded overwhelmingly in the past, but they are at least identifiable and vulnerable to a sales program. Two important sales techniques include making their job easy and giving them a local focus. The Iowa Chapter, AIA design awards program provides a format for meeting both of these requirements. The program results can be a marketable package that represents the profession and increases the awareness of architecture. As the Executive Director I will be taking an active role in media promotion and coordination of the traveling awards boards displays. The awards will be exhibited in art centers, libraries, banks and other places visible to the public.

The design awards program is also a communications tool within the profession. There has been an emphasis in recent years on participation in the awards program. The continuous display of all awards entries at the state convention has been an effective way of reviewing current construction in the state and putting your own work in perspective.

The profession is obviously interested in the design awards. Each year the awards jury critique is the most widely attended session at the state convention. We are all aware of the superficial nature of a design awards program but even with its flaws, the program represents a striving for excellence that hopefully will serve as a valuable motivation.

Participation in the design awards program has been increasing in recent years. Firms that have shunned the program in the past are now entering projects. This trend is a healthy sign. All of the program's values are strengthened through participation.

Claudia Cackler
Director, Iowa Chapter AIA

## Architects Succeed In Building Code Change

A major success for architects was achieved at the annual meeting of Building Officials and Code Administrators (BOCA) when their voting membership adopted the AIA's recommended code changes to Section 127 of the BOCA Basic Building Code.

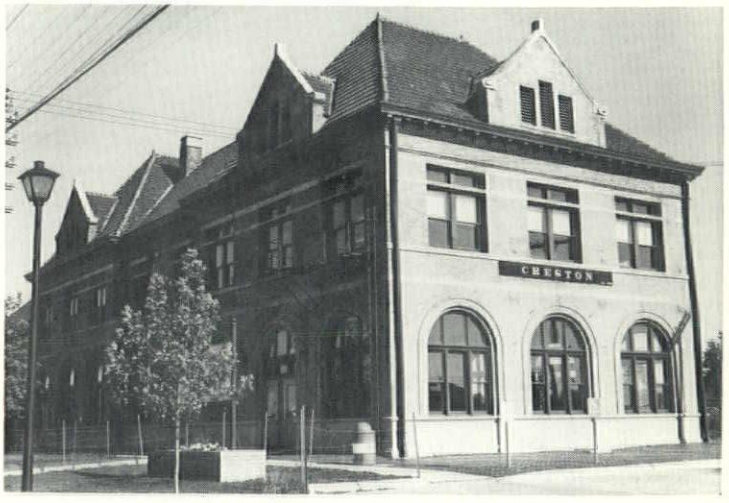
Long sought by the AIA Codes and Standards Committee, the changes amend the section to permit various construction contracts and delivery processes that were questionable under the former language.

Speaking on behalf of the profession, AIA codes and standards director James R. Dowling voiced strong support for the code changes at BOCA's meeting. "Of all the states that have adopted the Basic Building Code, the vast majority have eliminated Section 127," he said.

The section's previous language enlarged architects' professional responsibilities and liabilities without assuring compensation for these added risks and duties. An architect could conceivably contract for design services only, yet be required to furnish construction administration services without compensation, according to the former code language.

"Our final success shows that architects have the power to change building codes and regulations," said committee chairman John Stevenson.

## Buildings Reborn




**Creston Depot, now Creston City Hall, Creston, Iowa**

A special series of events highlighting our architectural heritage will be held this fall in Iowa City. *Buildings Reborn: New Uses, Old Places,* a photographic display circulated by the Smithsonian Institution Traveling Exhibit Service and a two-day symposium "Adaptive Use and Preservation of our Architectural Heritage" will be the main features of this event. Other programs include a newly created photographic display featuring Iowa's own architectural heritage and its adaptive use, walking tours of Iowa City featuring special examples of local adaptive use, and a survey of Iowa City's 125 year architectural history.

The programs are sponsored by Friends of Old Brick, a preservation organization, under matching grants from the Iowa State Historical Department, Division of Historic Preservation, the Iowa Humanities Board and the National Endowment for the Humanities. All events will be held at Old Brick, Clinton and Market Streets, Iowa City.

The *Buildings Reborn* exhibit examines through photographs and text examples of fine buildings which have survived their changing neighborhoods and out-

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dated purposes by finding a new way of life. Adaptive use has rescued hundreds of buildings whose time would otherwise have come. "It represents a new wave in architecture, yes. But, further, it is a significant social phenomenon in its own right, one that reveals a great deal about our country and about our attitude toward our resources and ourselves," explains Barbaralee Diamondstein, author of the book from which the display evolved. *Buildings Reborn* examines more than 50 projects ranging from the well-known Faneuil Hall Marketplace in Boston and Ghirardelli Square in San Francisco to the Community Arts Center in Grand Rapids, Michigan and the Omaha Building in Omaha, Nebraska. Iowa City is represented by the adaptive use made of Old Brick.

Old Brick will be the only midwest site of the circulating Smithsonian exhibit from October 11 to November 9, 1980. Hours of the Exhibit will be Sunday through Friday 2 p.m. to 6 p.m., Saturday, 9 a.m. to 1 p.m. Special times can be arranged for groups. Please contact Sandra Eskin, project director for Old Brick at 319-337-3019.

Concurrently, Friends of Old Brick is exhibiting a newly commissioned photographic display of Iowa's own adaptive use buildings. The display material was researched and selected by Marie Landon, consulting architectural historian of the Division of Historic Preservation.

Some examples of Iowa adaptive use buildings include: the Creston Depot, now a City Hall in Creston; the Blackhawk Fruit Company warehouse now used as a restaurant, shops and botiques in Waterloo; and the Careloton House, a Second Empire style residence, now a restaurant and apartment in Sac City.

After the opening in conjunction with the *Buildings Reborn* exhibit, the exhibit *Iowa's Architecture; reflecting the past, serving the present* will be available for circulation throughout the State. Funding for the exhibit and its touring is made possible by the Division of Historic Preservation, 26 E. Market, Iowa City.

Friends of Old Brick under a grant from the Iowa Humanities Board and the National Endowment for the Humanities will be presenting a symposium "Adaptive Use and Preservation of Our Architectural Heritage" on October 30 and 31 at Old Brick in Iowa City. The contents are geared to both the preservation-minded citizen and to the architectural and planning professional. Humanist speakers and professionals in the field of architecture, planning, real estate, and finance will be featured.

This symposium hopes to dispell the notion that preservation only means saving buildings as memorials and museums.

Among those addressing the symposium will be: Thomas Lutz, Director of the Downtown Development Association of Red Wing, Minnesota and former Assistant Director of the Midwest Office of the National Trust for Historic Preservation speaking on Adaptive Use and Preservation in the Community Value System; Michael Nichols, real estate consultant at Shlaes & Co., Chicago speaking on Marketing Mainstreet, an economic evaluation of three Mainstreet projects sponsored by the National Trust; Robert Harvey, landscape architect, Iowa State University, Ames speaking on the Character and Fabric of a Setting as Determined by its Landscaping; Todd Mozingo, Historic Conservation Coordinator at Wehner, Nowysz, Pattschull & Pfiffner; and Peter Burchette, President Greater Bloomfield Chamber of Commerce and Vice President of Exchange Bank speaking on Bloomfield Square — the Community Approach to Commercial Revitalization.

The symposium meets the qualification for continuing education credit hours for Iowa architects.

## House Bill to Ease A/E Liability Insurance Burdens

Legislation has been introduced in the U.S. House of Representatives that would permit design professionals to create tax deductible trust funds to pay liability claims and legal fees.

Cosponsored by Reps. Frank J. Guarini (D-NJ) and John J. Duncan (R-Tenn), the Design Liability Act (H.R. 7562) is a companion measure to the Service Liability Partial Self-Insurance Act of 1980 (S. 2512), introduced in April by Sen. Charles McC. Mathias (R-Md).

The AIA-supported S. 2512, described as "a major breakthrough for architects and engineers" is now before the Senate Finance Committee with two new cosponsors, Sens. David Durenberger (R-Minn) and Lloyd Bentsen (D-Tex). H.R. 7562 is before the House Ways and Means Committee.

Virtually identical, the Senate and House bills would change the Internal Revenue Code to expedite the accumulation of reserves by design firms to deal with

future liability claims. (Current tax law discriminates against A/Es who self-insure or accept high deductibles to reduce premiums.)

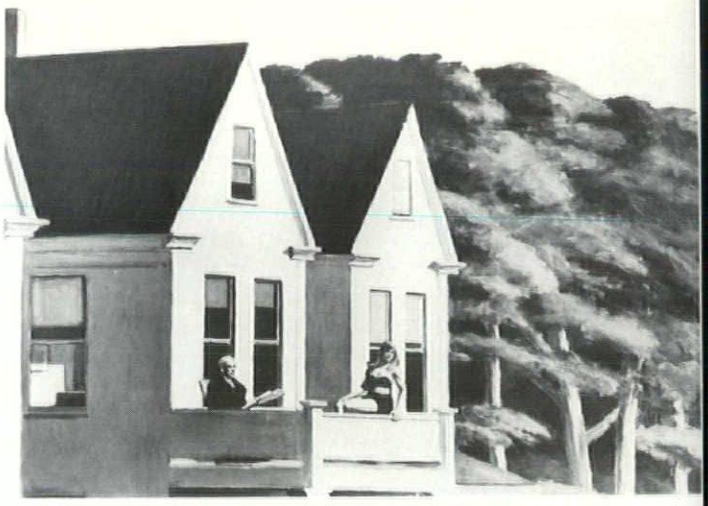
The vital legislation can become law only if enough support is generated in Congress. All A/Es are urged to write their senators and congressmen asking them to cosponsor these bills.

## Hopper Art Exhibit Opens

American master Edward Hopper is well-known for his depictions of the American scene, especially his fascination with architecture. When *Edward Hopper: The Art and the Artist* opens at the Whitney Museum on September 23, 1980, everyone involved in architecture, building and real estate will be delighted by the artist's rendering of small-town houses and country homes as well as railroad stations, theatres, apartment buildings and cityscapes.

With his keen-eyed observation of detail, superb control of line, and fascination with the play of light over solid objects, Hopper was able to turn the dreariest shop or simplist home into paintings of great beauty and charm. It would be difficult to walk away from an exhibition of his works without having gained a new perspective on architectural form.

This retrospective of more than 150 oil paintings, 35 watercolors, and 100 drawings, many of which have never before been seen, is the first exhibition to present



**"Second Story Sunlight," 1960. Oil on Canvas, 40"x 50"**
**Whitney Museum of Art, New York**
**Gift of the Friends of the Whitney Museum**
**of American Art and (purchase) · photo by Geoffrey Clements**

Hopper's masterpiece paintings along with their preliminary drawings. Included are such outstanding works as *Lighthouse at Two Lights* (1929), *Early Sunday Morning* (1930), *Office at Night* (1940), *Nighthawks* (1942), *Hotel Lobby* (1943), and *Woman in the Sun* (1961), as well as a series of self-portraits that is being shown for the first time.

*Edward Hopper: The Art and the Artist* is made possible by grants from Philip Morris Incorporated and the National Endowment for the Arts, and includes nearly three hundred watercolors, drawings and oil paintings. It will travel to London, Amsterdam, Dusseldorf, Chicago and San Francisco.

# BUILDINGS REBORN:
## NEW USES, OLD PLACES
## Exhibition
### October 11 - November 9, 1980

Adaptive Use and Preservation of our Architectural Heritage — a Symposium
October 30 and 31, 1980

**Programs made possible by:**
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**Smithsonian Institution Traveling Exhibit Service**
**Iowa State Historical Department, Division of Historic Preservation**
**Iowa Humanities Board and the National Endowment for the Humanities**

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"Neat!"

"Chic!"

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