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MAY/JUNE 1982

Education in Architecture



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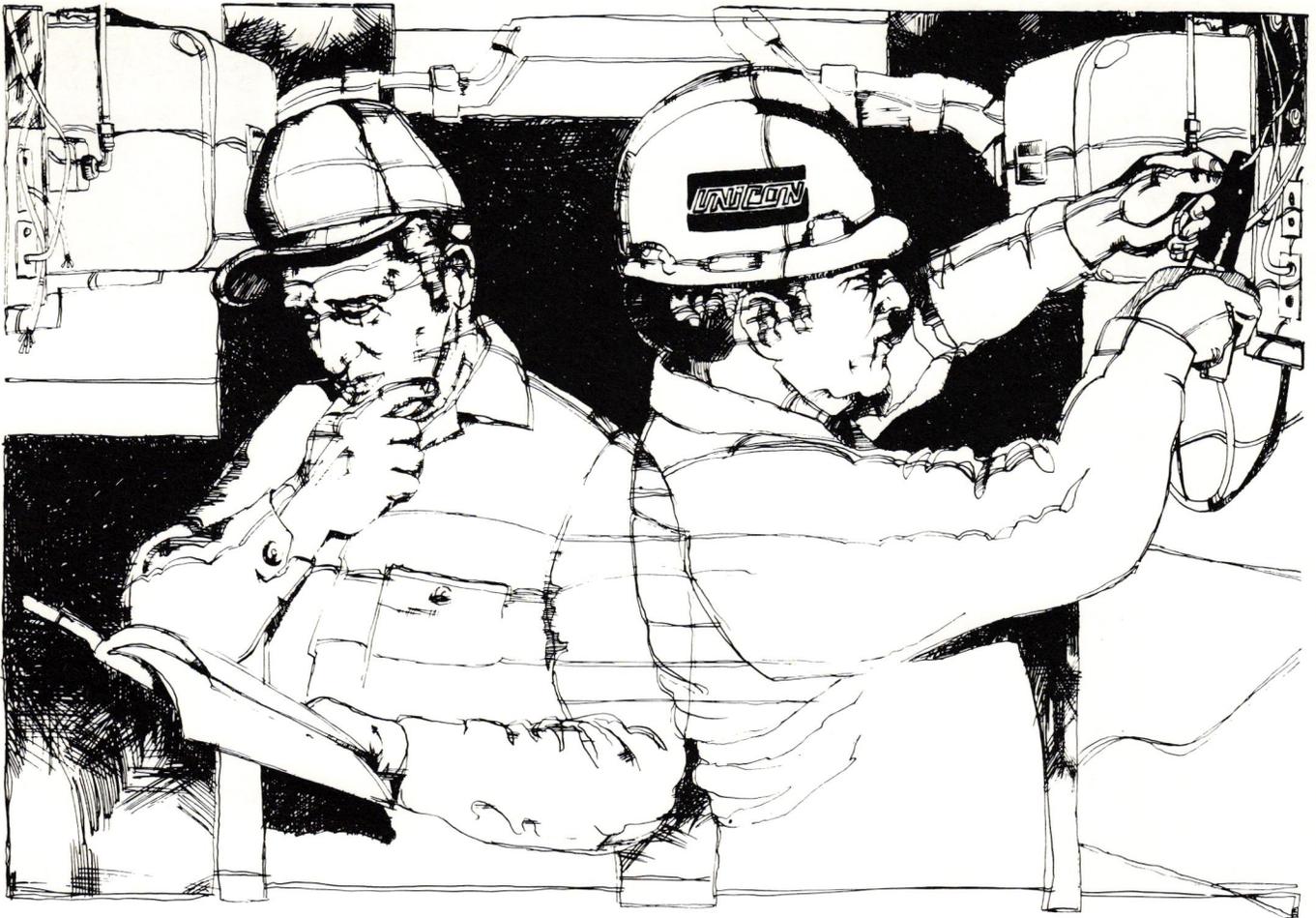
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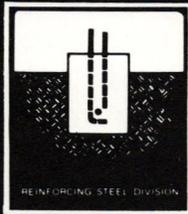
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Jim

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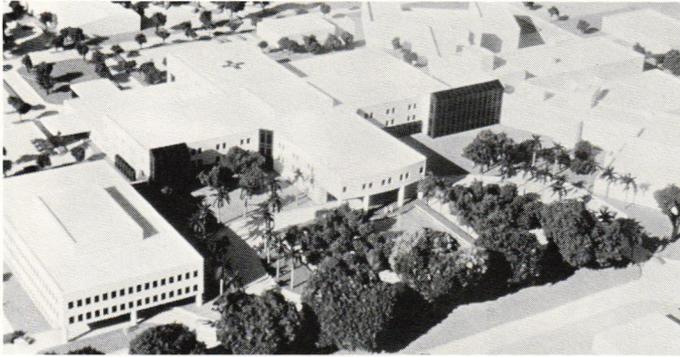
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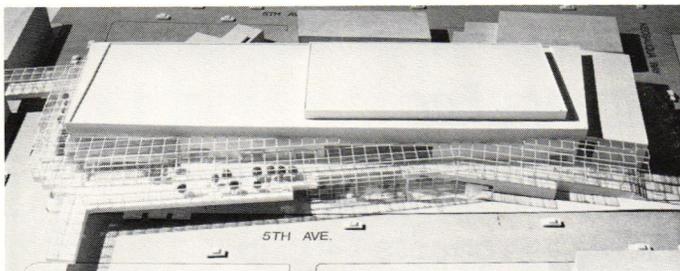
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WORKS IN PROGRESS

Variety Children's Hospital in Miami



Variety Children's Hospital is a leading provider of children's primary and tertiary health care in the southeastern United States for which Hansen Lind Meyer, P.C. of Iowa City, in joint venture with Ferendino/Grafton/Spillis/Candela of Miami, has designed a replacement facility of 185,000 square feet. This new space includes 144 medical/surgical beds, 20 Level III neonatal nursery beds, 20 Level II neonatal nursery beds, 10 pediatric m/s ICU beds, 15 m/s special care nursery beds, surgical suite, radiology suite, clinical and pathological laboratories, outpatient clinics and emergency department, and support spaces. In addition, renovation will accommodate 30 acute psychiatric beds, 20 chronic—rehabilitation beds, and additional support services. A professional office building will be located adjacent to the new facility.



Des Moines Convention Center

The City of Des Moines has announced the completion of the Schematic Design phase of the new Des Moines Convention Center, to be located within the block bounded by Fifth, Sixth and Grand Avenues and Keosauqua Way. Designed by Brooks, Borg and Skiles Architects—Engineers and Loschky, Marquart and Nesholm of Seattle, the \$12.5 million Center has a total of 133,815 square feet located on two levels, the lower of which has on-grade access to Grand Avenue and the upper level on-grade access to Keosauqua Way. The unusual site boundary geometry produced by the areas intersecting street grids has influenced the overall design of the Center. The main exhibit hall and meeting room mass is

a simple rectangle paralleling Fifth Avenue. The required lobby and circulation areas are irregular glass volumes oriented to Grand Avenue, Keosauqua and adjacent blocks of Fifth Avenue. The lower level of the Center contains the main lobby with the auto—taxi port on Grand Avenue, escalators serving the upper level, and administrative offices immediately off of the lobby. This level also includes 15,000 square feet of meeting rooms, capable of being organized into one large space, 15 meeting rooms of 1000 square feet each, or various intermediate combinations. The remaining lower level area is devoted to food service, storage, and related support requirements. The upper level of the Convention Center contains the main exhibit areas of 28,800 square feet and two assembly halls. With movable partitions, the entire area can be combined into one single space of 50,200 square feet. These spaces are served by the upper lobby, which is connected by escalators to the main lobby and by skywalks to adjacent development across Grand and Fifth Avenues.

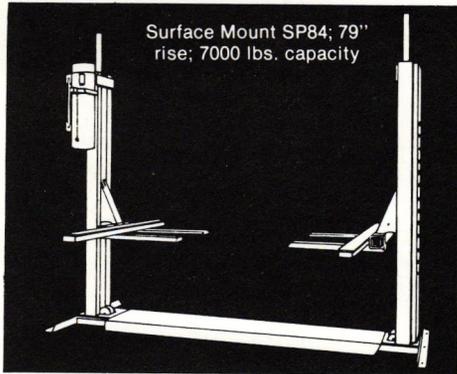
Waterloo Project Rebuilds Street Face

Thorson, Brom, Broshar and Snyder Architects are participating with Conway Plaza Development Company on a major renovation project in downtown Waterloo. The stated goal of The Conway Plaza development is one of revitalization for the downtown core in Waterloo and its construction time is linked to that of a new hotel now in progress. The project rebuilds the existing street face and connects the new hotel directly to an adjacent and expanded parking structure via an elevated walkway. Commercial Street and the West Fourth Street elevations would be developed to emphasize modern merchandising techniques. The building line would be set back on both streets to allow for landscaping and brick paving. Major entrances are located on both Commercial Street and West Fourth Street opening to an interior mall. The interior circulation mall would lead to the new ramp elevator and stair. Shops at grade would have exposure both to the exterior and interior mall. Acquisition of the Waterloo Building will permit utilization of its elevator system and the entrance from Commercial Street will feature a large public circulation area and stairway to the second level and skywalk system.

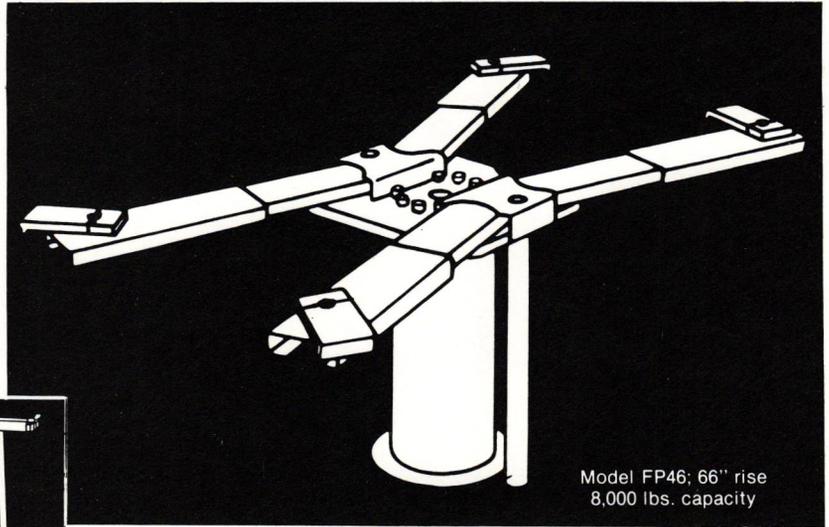




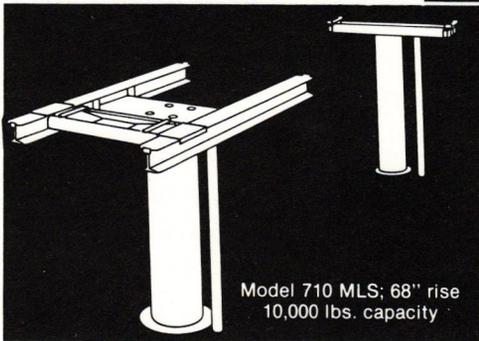
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A REVIEW

Student Work 1982

DEPARTMENT OF ARCHITECTURE
IOWA STATE UNIVERSITY

Design studios provide the architecture student with the first "real" opportunity to address design problems. Though actual clients or limiting budgets may be absent, the programs and basis for evaluation are often carefully composed and very definitive. Projects selected from work completed during the 1981-82 academic year with the assistance of the ISU design faculty.

Problem Statement:

A bank holding company has elected to expand its Des Moines facility to incorporate a new central data processing operation. Their 53-year-old existing building, located at 6th and Walnut, is an art deco design recently remodeled quite successfully. The 5-story structure was designed originally to be expanded to 17 stories, but addition of air-conditioning and many other changes occurring in the last 50 years have led to the decision that the quarter block site south and adjacent to their present quarters should be fully developed for not only the needed computed space, but as a major CBD (central business district) office commercial project. The bank has controlled the property for several years. It fronts 6th Avenue on the west and Court Avenue on the south. The present use is for a drive-in bank, which will be relocated to the perimeter of the CBD, and for parking.

The principle loop of the emerging CBD skywalk system (a second level enclosed pedestrian connector) is established except for the link across this site. The skywalk will emerge from the west wall of the recently constructed 5-story J. C. Penney Department Store on the east lot line, extend through this project, across 6th Avenue and link up with the second floor level of the Midland Financial (formerly Des Moines Savings) building, a classic revival 12-story office building, and the Chicago School Fleming Building west of the existing bank. Across Mulberry to the south (occupying a full block) is the 70-year-old Polk County Courthouse, one of the best examples of Renaissance revival in the midwest.

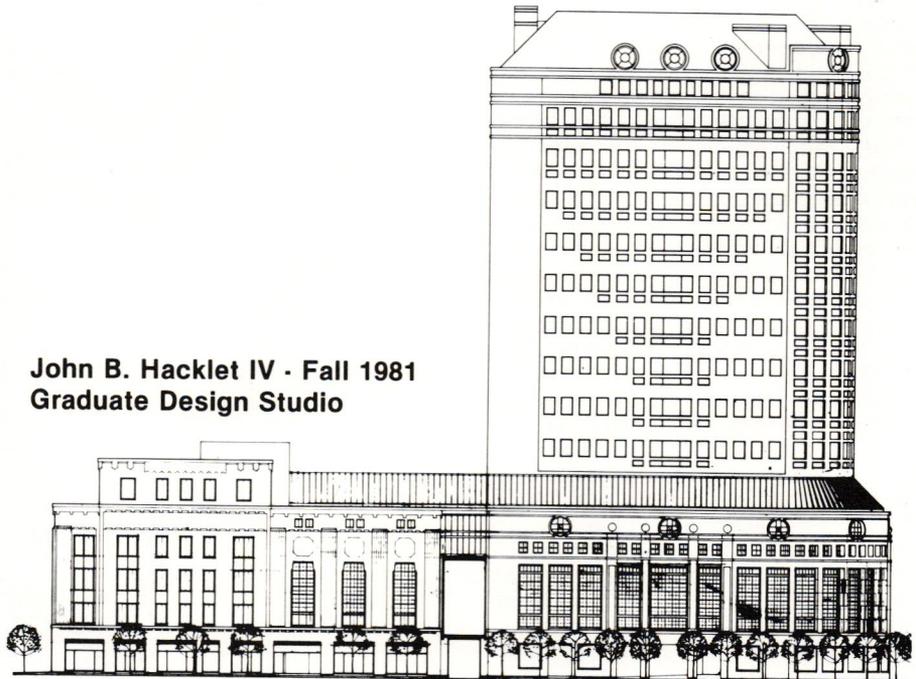
A SPECULATIVE OFFICE
BUILDING ADDITION TO AN
EXISTING BANK

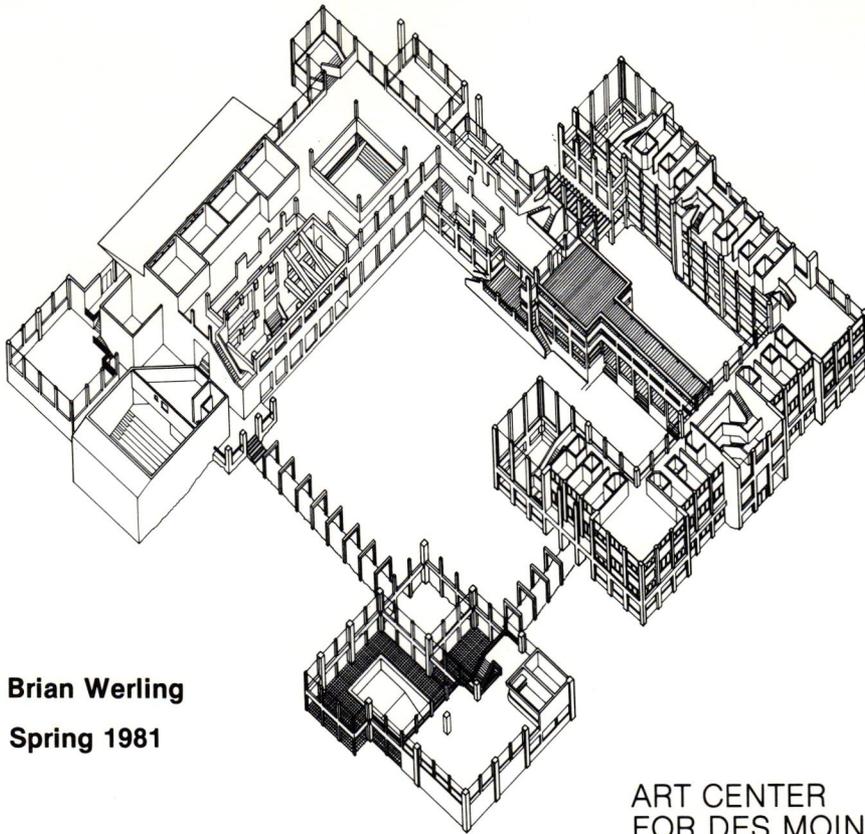
Greg Sundberg

Fall 1981



John B. Hacklet IV - Fall 1981
Graduate Design Studio





Brian Werling
Spring 1981

**ART CENTER
 FOR DES MOINES**

Michael Bonhart
Fall 1981

IBM CORPORATE RETREAT

Problem Statement:

The development of a proposal for a corporate retreat provides a vehicle for exploring the interrelationships between landscape and shelter. An important part of this problem requires understanding the social context of the facility which involves individual, communal and institutional issues.

IBM is a corporation known for its quality products, image and extensive teaching programs for its personnel at corporate headquarters. They have recently decided to investigate the possibility of a corporate retreat which would house a teaching institute for upper level management with recreational, leisure and housing accommodations for forty people. The facility would be located in the Catskill Mountains in up-state New York which is within commuting distance of corporate headquarters. The retreat would be used for a variety of corporate functions and is situated on a wooded, hillside acreage.

There are several components to this problem. One is to identify an image which would be responsive to the corporation and sensitive to the context of the natural landscape of the site. The other is to be responsive to the requirements of both public and private domains. The public domain requires accommodations for meetings, socializing and dining in large and small groups. The private domain requires housing accommodations for guests. Outdoor activities, playing fields and a swimming pool are desired.

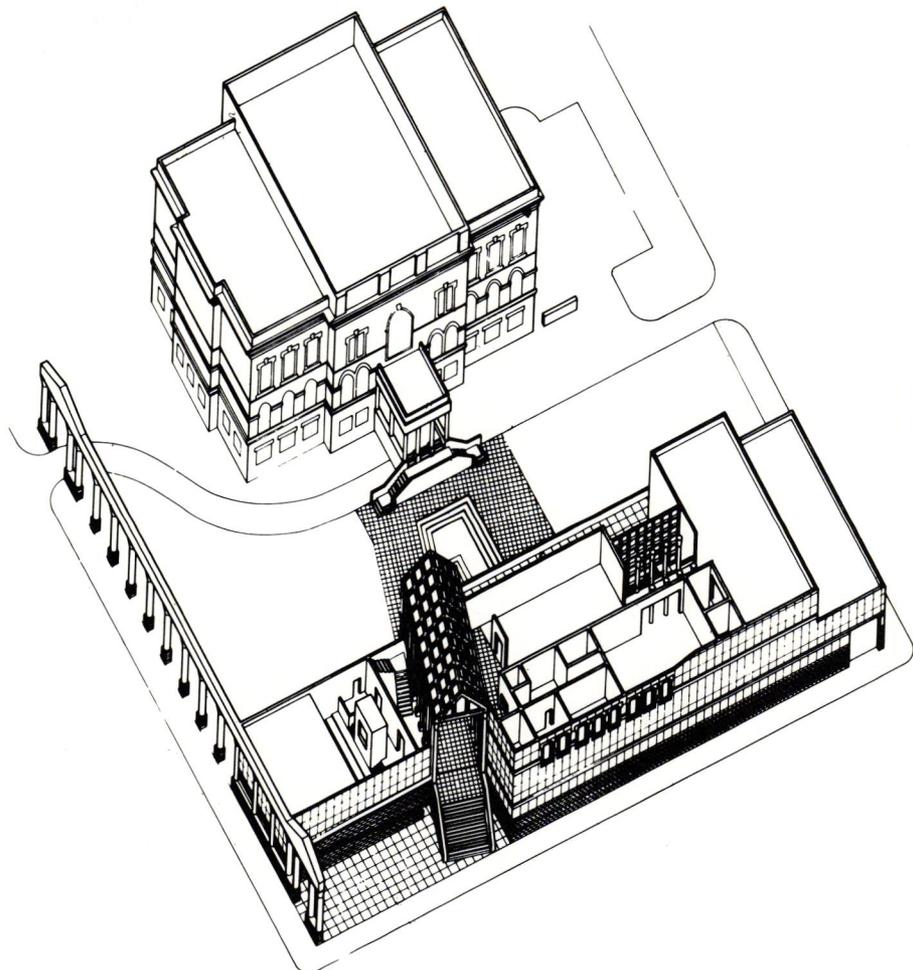
Problem Statement:

Mr. Adam Donnar, the principal shareholder and operational director of a worldwide industrial organization, proposes to establish *The Adam Donnar Gallery* in Des Moines, Iowa. His purpose is to provide public exposure for his private art collection and to create expanding opportunities for communication between artists and the people of Des Moines and its affected region.

Mr. Donnar's collection and its private presentation represented an exercise of his personal attitudes and artistic taste. However, he now proposes to place his collection in the public domain and has established the *Adam Donnar Foundation* to acquire a site, to have a facility designed and constructed, to assume the care and management of the collection, to expand the collection with timely acquisitions, to manage the day-to-day operations of the facility and to provide the necessary maintenance and building management.

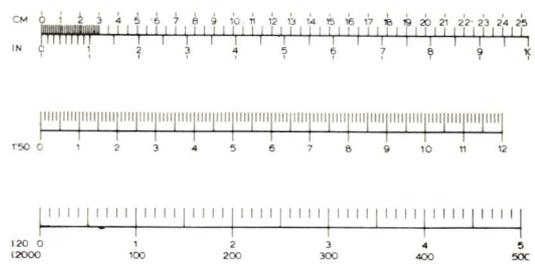
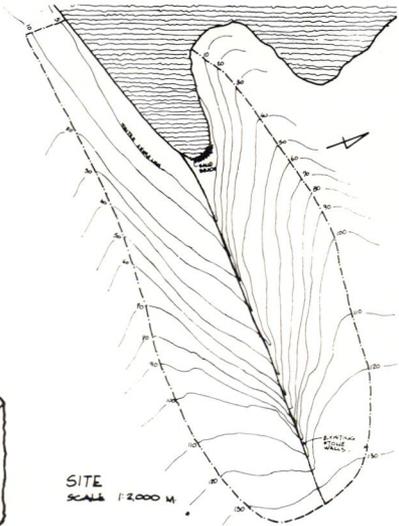
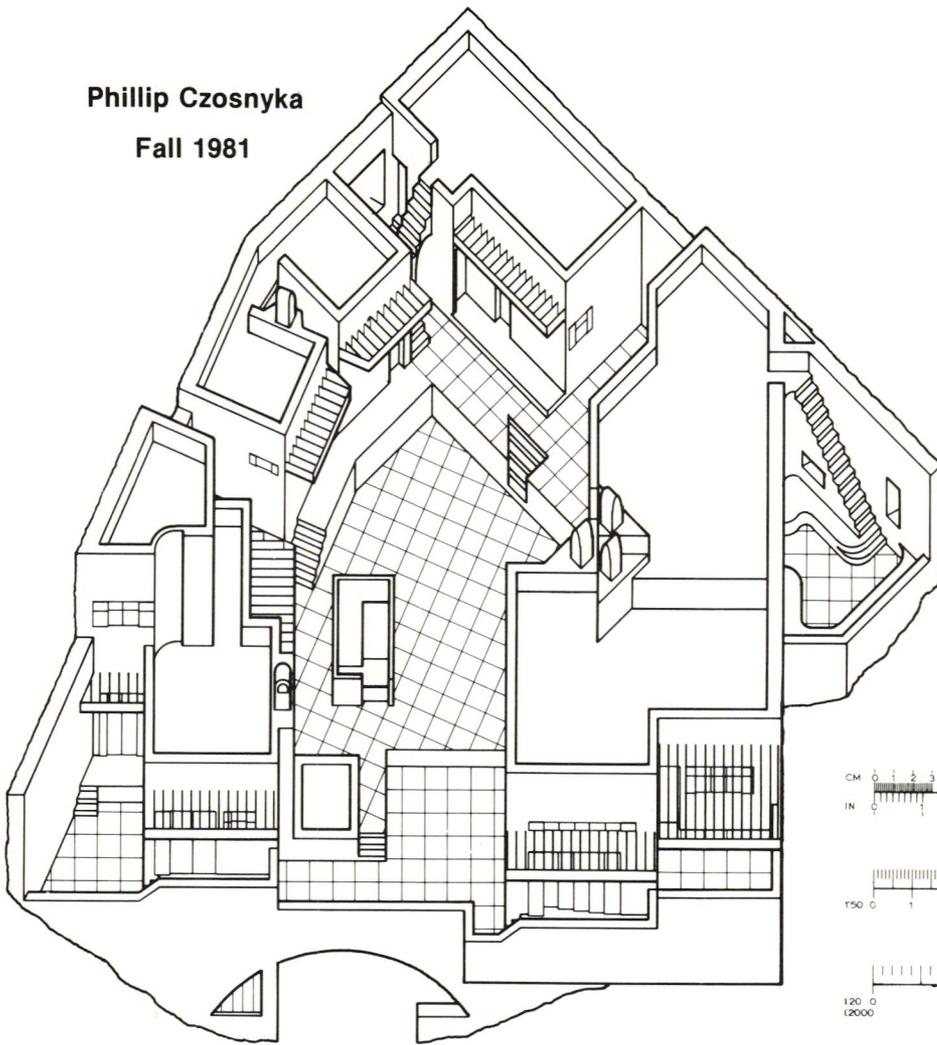
The site was selected because of its accessibility to many people of the community and to form a compatible expansion of existing cultural functions such as the Des Moines Civic Center and the main Des Moines Library.

One of the considerations involving the city was the city's desire to improve pedestrian and vehicular access to the library.

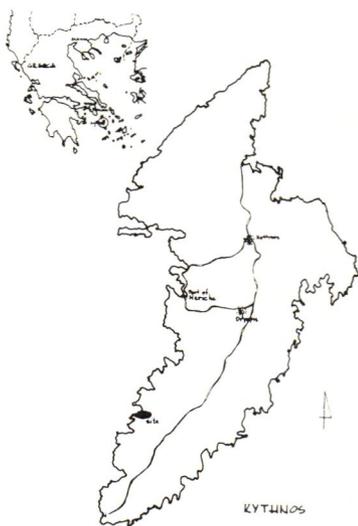


Phillip Czosnyka

Fall 1981



VACATION HOME IN THE GREEK ISLES



Problem Statement:

Dr. Archimedes Papapoulos is an associate professor of mathematics at the University of Athens, Greece. He is in his mid 30's, and was appointed to the faculty of the University of Athens following his completion of studies in Greece, France, and the U.S.A.

His wife, Athena Papapoulos, is a painter with studies in France. They have a son, Euclides, age 3, and a daughter, Euridice, age 2.

During their studies abroad, Dr. and Mrs. Papapoulos established deep friendships with a number of western Europeans and Americans, one of whom is you—an American architect. They propose to build a vacation house on an Aegean Island for themselves and their friends, who regularly visit them from abroad during the summer months.

Besides entertaining, Dr. and Mrs. Papapoulos enjoy music, literature, fishing, skin diving, gardening, and wine making.

The site of the proposed Papapoulos

vacation home consists of 8.7 hectares on the western shore of the Island of Kythnos, 50 nautical miles from the Port of Piraeus.

Kythnos is a relatively low-lying island, with a maximum elevation of 300 meters. It is 21 km. long in the N-S direction about 11 km. wide in the E-W direction, covering an area of about 120 sq. km. The latitude of the island is 37° N.

The house is to be used primarily in the summer and only occasionally in the winter. The owners expect their foreign friends to rotate their visits, with at least two couples being guests at any given time. They expect additional friends from Athens during weekends, when parties of 15-20 people would not be unusual. They wish, however, to pursue their professional interests for at least a few hours each day and require relative isolation from their guests and children during these hours. They expect their friends to participate in the daily chores and care of children.

Problem Statement:

The Amana Society has come to you to help design an atheneum to the Amana Colonies. Founded in 1932 to supervise and operate the colonies 26,000 acres and businesses, the society faced a growing problem of tourism and visitor control. The once communal villages are now besieged by the curious.

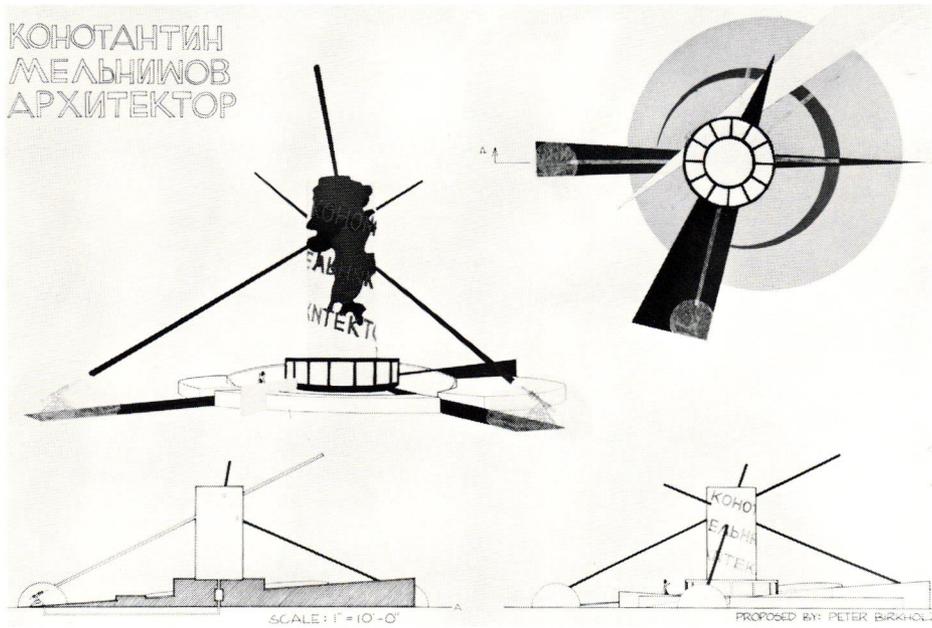
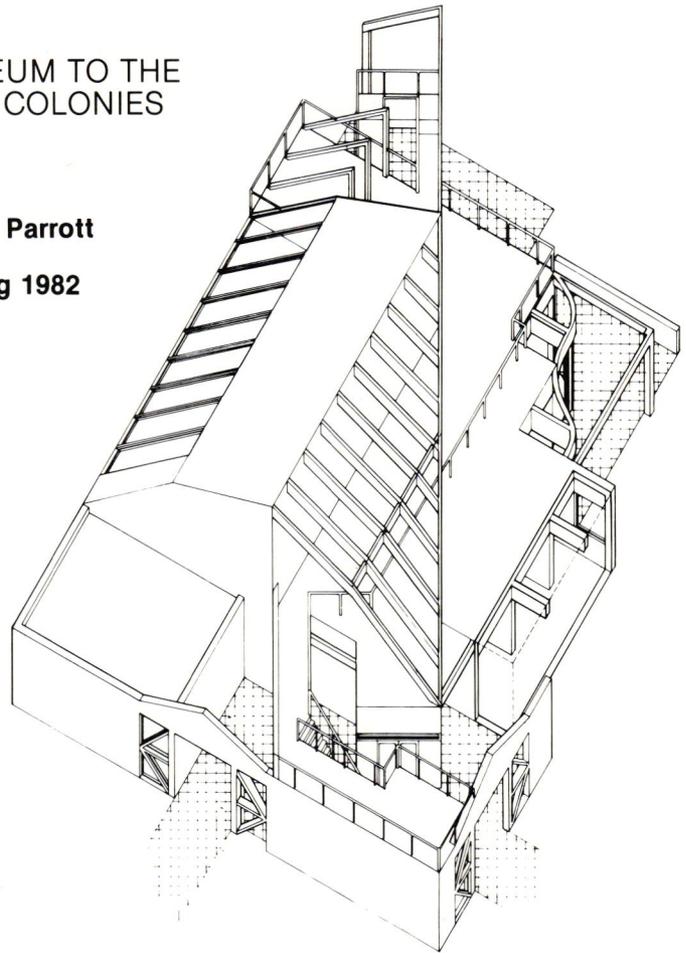
To better control their future and with the help of the federal government a new highway and tourist center is to be constructed. The highway will run due south from South Amana to a new intersection with Interstate 80. The highway will be constructed if the Amana Society agrees to construct an atheneum open year round and free to the public.

The Amana Society has selected a four acre site adjacent to the proposed Highway 59. It rests on a bluff with clear view of South Amana to the north. The acreage sits in rolling farm land devoid of trees.

The project is to collect tourists from the highway and show them history of the Amana Colonies, familiarize them with the area, and provide them with bus tours if they desire. It must be designed in such a way as to be self-explanatory as possible. The building should beckon vacationers in and control their journey through a prescribed series of educational experiences.

ATHENEUM TO THE AMANA COLONIES

**Phillip Parrott
Spring 1982**



MONUMENT TO KONSTANTIN MELNIKOV

Peter Birkholz

Problem Statement:

Abstract the underlying principles that transcend the specific projects of an architect chosen from the attached list. Determine from the projects the main visual issues and types of spatial organizations that form a point of departure for design and provide continuity between various projects. Describe how the value system(s) of the architect (and/or, possibly, the user) relate to the formal/spatial concerns manifested in his designs.

Having gained an understanding of the basic principles and value systems characteristic of the work of your chosen architect, design a suitable monument or memorial to that architect. The project may be of any size or scale; it may or may not have a specific function; the choice of site may be specific or general. The method and quality of presentation should be convincing and appropriate to the project.

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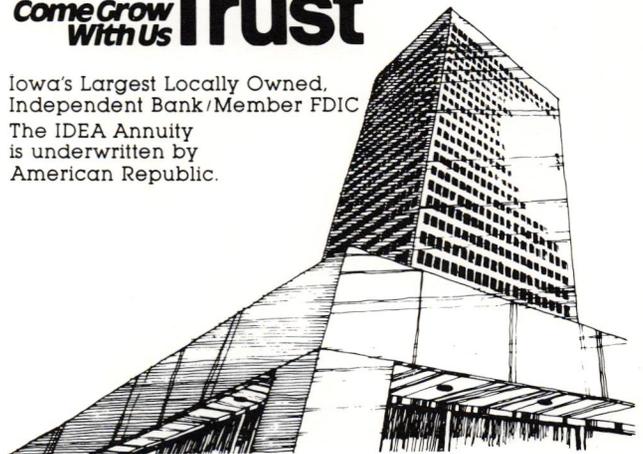
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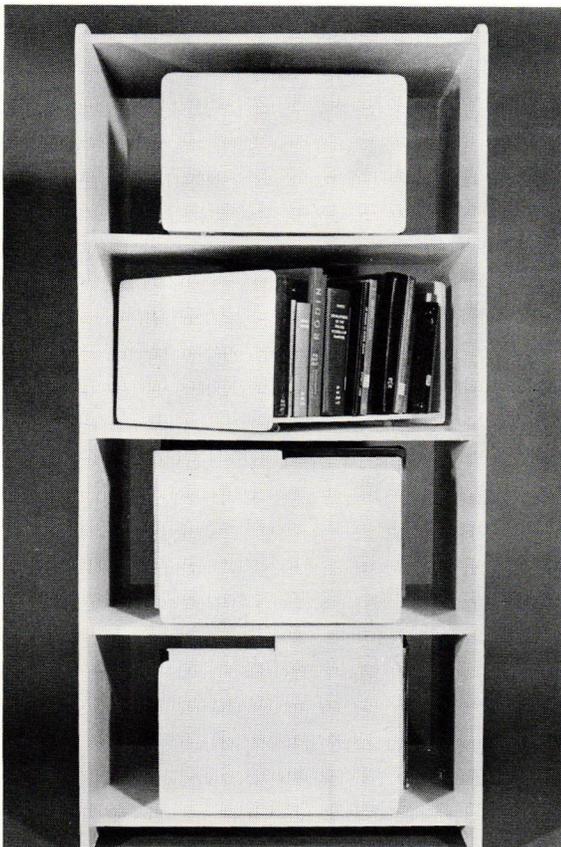
Conceptual Design

In Pursuit of Ideas

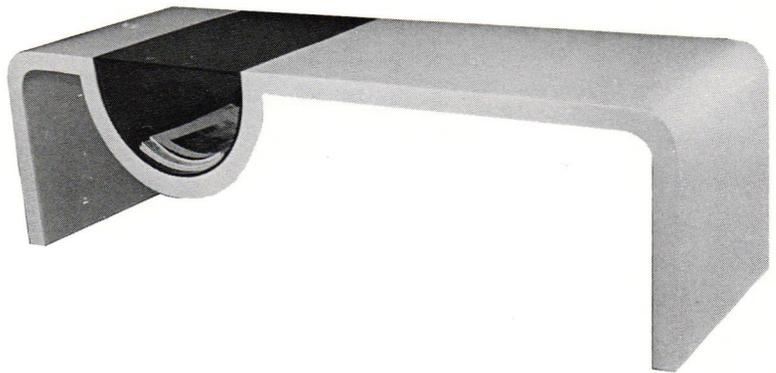
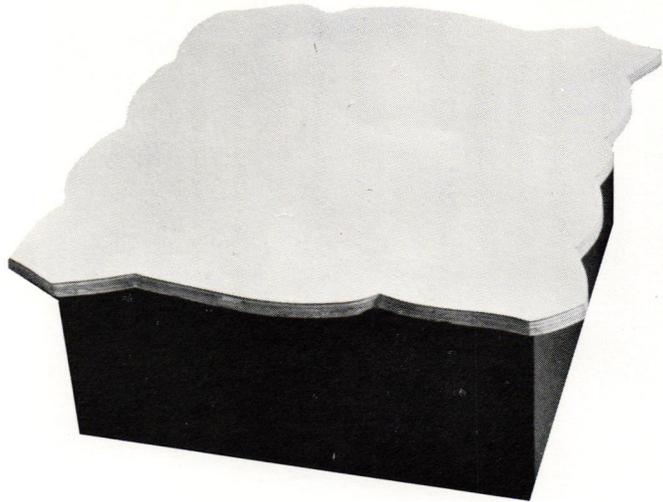
Somewhere along the line, the intelligence, skill and freshness nurtured in the design student is dissipated in the commercial world. It becomes increasingly difficult to set aside the daily interferences in the pursuit of ideas promising no tangible reward. Yet it is exactly in that way that most designers begin their study; embracing problems for their own sake, creating with confidence that the process is as important as the product.

At the same time, the current concern that design encompass the whole of the human environment has no precedent in history. The interest in an environment shaped by designers "represents the absolutely contemporary - and logical - extension of an expanding interest in design" issues. The ability to conceptualize design solutions, to think visually, is juxtaposed against the desire for order and objectivity in a technological world.

Predictably enough, it remains to the university culture to provide an environment supportive of independent intellectual exploration. At the University of Iowa School of Art, Hu Hung-shu, professor of design, continues to approach his work through an imaginative, open minded process that is at once exciting and gratifying to discover. Indeed for Hu, the process truly **is** as critical as the final product, and he is serious as he describes the need to work for ourselves and "continually lubricate" our minds through conceptual design efforts.



The recent work of both Italian and American designers has explored and experimented in free plastic forms. Conceptual in nature, a good deal of this work originates in college workshops and rarely goes into production. The Outer Chair (1978) by Hu Hung-shu of the University of Iowa's School of Art and Art History is very similar to a chair produced by Cassina of Italy and introduced, at the The 1980 Milan Furniture Fair. It is a simple dining chair that seems to have been subtly enveloped by some molten fabric. The Cloud Table' (1981) has a pre-Studio Alchymia air about it, and there is a "stylized wit" associated with his bookshelf (1974) in which the books are hidden by rotating the shelf. Hu's work ranges from the ostensibly functional, evidenced in the coffee table with magazine rack (1972) to the seemingly disfunctional, such as the "Chair for the eye to sit upon." (1980) That none of these pieces is in current production seems odd until one understands Hu's fascination with the "process" not just the product of design.



Born in Shanghai, China and graduated from Taiwan's Cheng-kung University where he majored in architecture, Hu's work has encompassed architecture, furniture, commercial products and toys, and industrial packaging. From 1961 to 1964 he was an assistant professor in the Department of Architecture at Tunghai University in China and in 1966 graduated from the Cranbrook Academy of Art, Bloomfield Hills, Michigan with a Masters of Fine Arts. His student work at Cranbrook was cited as an example of the individual quest for creativity that needs to continually be fostered and broadened. There, Hu concisely identified his aim "to find new methods ... taking full advantage of the tension, bending and compression qualities of the materials" with which he was working.

The conciseness is evident even today and contradicts the popular notion that conceptual design must be buried in unintelligible rhetoric about underfined, unrealistic or purely academic projects. To the contrary, the work is very real. Hu insists that the designer must know and must understand why he has made each movement. Like a master of chess, the designer can play each design move back again, explain it, replay it, vary it at a different scale. Precise dimensions really do not matter once an idea, a concept can be recalled and repeated.

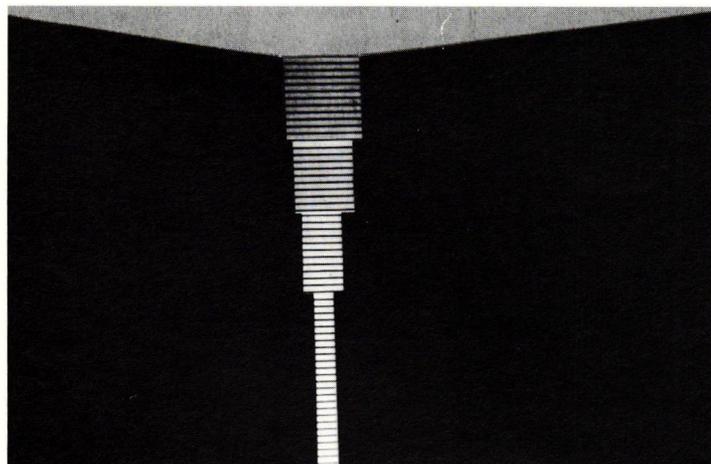
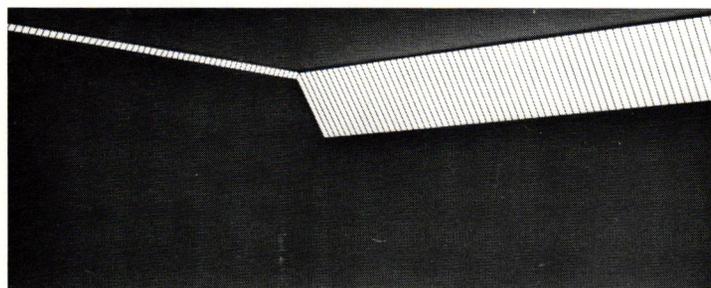
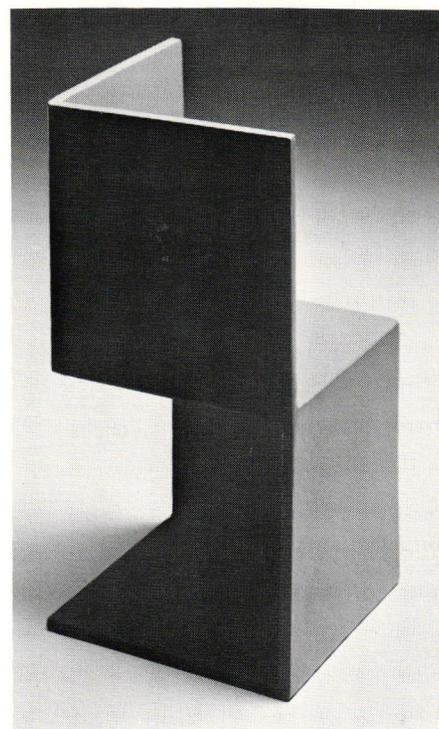
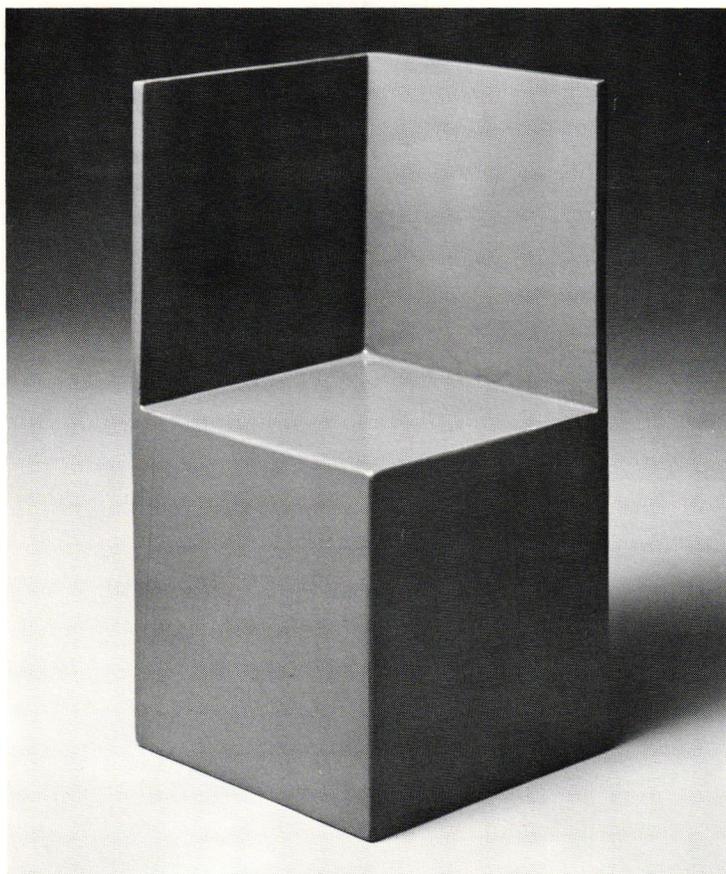
It is this initial, fragmented process of design that Hu

describes as "blind movement"; the formulation of a concept that derives substance piecemeal and avoids the tendency for "linear thought". His sketchbooks illustrate the principle that when an idea is young, aesthetic clarity maybe undeveloped. "You must keep an open mind to receive an idea. It might be in your mind for only a second, yet it still exists. Because everything goes through your mind quickly, you can see the problem from many different angles."

It is a conceptual process that challenges Colin Forbes, one of the founding partners of the London design firm Pentagram, who has maintained, "There is no design until there is product." In fact, process has gained **precedence** over product and along the way has infused product with much more than functional intent.

Hu has been associated with the University of Iowa since 1968. There, as head of the fledgling design department, he teaches basic design, graphic design and what he prefers to label "environmental design" studio.

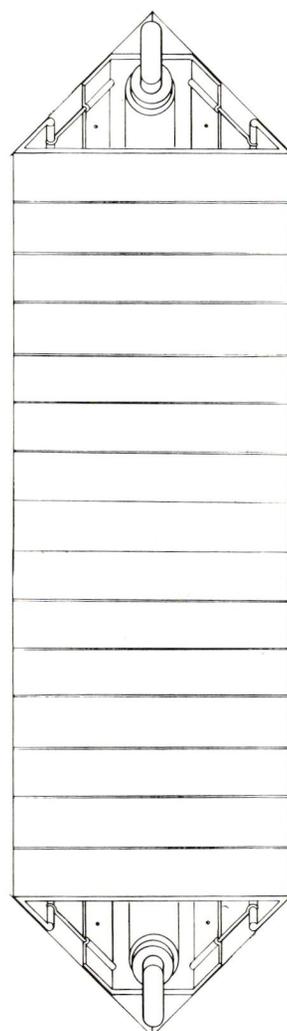
Starting with a common problem, students are urged to pursue that problem from widely different and personal perspectives. Studio classes find themselves involved in a "patient search" rather than the creation of a precious object. Deadlines are stressed, but not rigid. Hu is more concerned that each student allow himself the opportunity to develop a concept to its fullest poten-



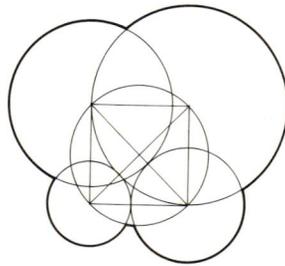
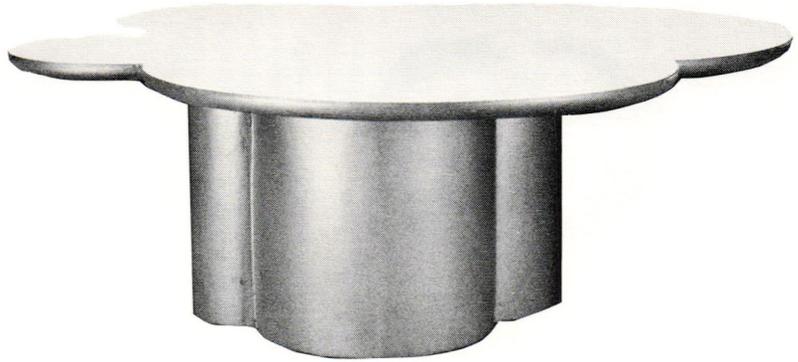
The Blue Chair presents a dimensional versatility that is rare in pieces of furniture: from several points of view, its planes combine to give the impression of a striking two-dimensional image. Thus, in addition to the expected qualities of a three-dimensional object, the viewer can appreciate certain value of line and composition usually emphasized only in graphic images.

The Blue Chair is not merely an exercise in visual versatility, however; it is a trim, stable chair with definite material felicities. It stands 31'' high, 16'' wide, 16'' deep. It is composed of panels 3/4'' thick, and its two longest edges are reinforced by interior square tubing. Its production, like its aesthetic quality, would be a matter of simple components easily combined into a structural richness.

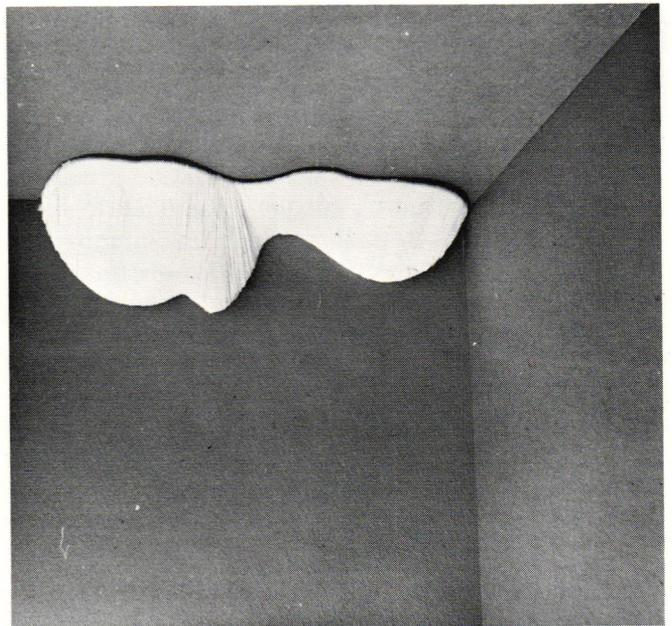
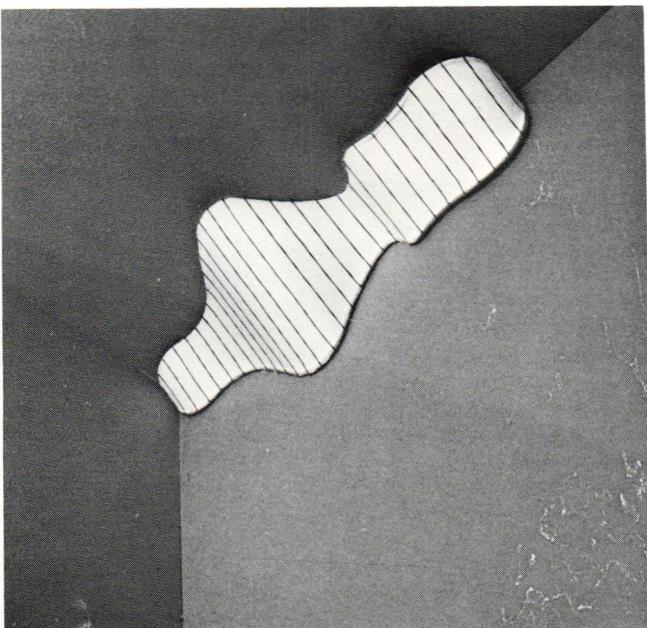
The Corner Lighting uses various sizes of rectangle shields, arranged in many ways. It takes advantage of the corner both as the safest place in a space and as a reflector. Materials are nylon, plastic, glass, and either paper or fabric stretched on a metal or wood frame.

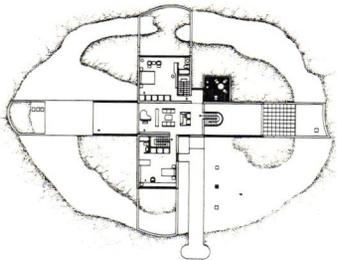
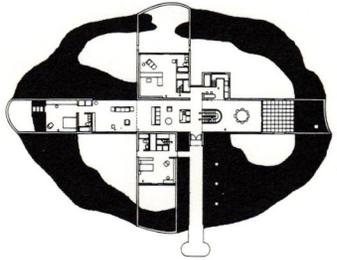
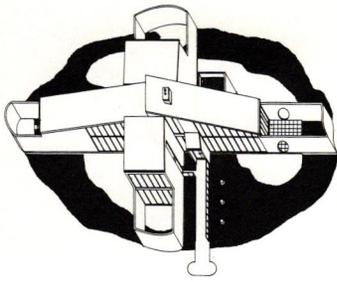


Hu's work distains the use of the grid as an ordering device. Yet clearly there is control and order in his constructions. The 5 in One Table (1981) is an evolution from his earlier work in flowing forms and cloud images. Important to this piece also, however, are issues of intimacy, scale and collective assemblage. The table accomodates groups of different sizes, leading a single arced edge for solitary dining, larger circular forms for two or three. There are also suggestions of hierachel order by the seating arrangements chosen around this table for much larger groups. Though a "head" position cannot be established on a round table, the 5 in One Table seems to offer that additional—and often important—choice. The five circular elements are defined by a single square; the corners establish the center of four of the circles. The fifth circumscribes its edges. Precise dimensions are not as important as an idea.



Cloud lamp is a corner light that employs Japanese paper or acrylic to create the image of floating clouds. It received the Bronze Award at The Tokyo International Lighting Design Competition in 1975.





The qualities that make the detached house attractive—insularity, defensibility, and the feeling that for all of its smallness relative to the multiple dwellings around it in the city the house is nevertheless ‘whole’—must be preserved on the scale of the individual within the house. A person should be able to find inside the same potential for refuge or selected society that led him to choose such a house in the first place. The primary quality, of course, is privacy.

The Moat House is designed to provide a range of privacy and a range of opportunities for combination. The dwelling itself is set off from the surroundings by one of the oldest and most fundamentally distinct boundaries: water. The house’s placement over water is echoed in each individual apartment—the outermost section of every wing is a courtyard with high fences under which part of the man-made moat flows. (The water is recycled, from the point in the master apartment courtyard where the moat’s extremities are kept separate.) Thus each occupant has access to the water’s protective image, within his own space. No point of view in the house commands all of the water at once; it belongs to each courtyard, each occupant, and yet it is never contained by any one vision. The counted back walls of the wateryards enhance the feeling of being outside, detached, and yet contained all at once.

tial. The goal is not to achieve satisfaction from work finished, but to use the conceptual process as a bridge to another idea. Indeed, Hu lives the philosophy of Descartes, believing thought itself defines existence.

Awarded in 1981 for his submission to the first annual International Conceptual Furniture Competition, Hu has been a prolific contributor to international design competitions and publications. The “Cloud Lamp”, a corner light that employs Japanese paper and acrylics to create the image of floating clouds, received the Bronze Award in the Tokyo International Lighting Design Competition, 1975. The major emphasis of that competition, revealed in jury critique, was well suited to this work. It was not the nature of the fixtures but the “approach to light” brought to the work by each designer that intrigued the international jury. *The Architectural Review* of London cited his “styled wit” in a review of his furniture published in July, 1981, and noted “If Hu were working in Italy, his designs would probably be in limited production. Certainly his ‘Cloud Table’ has a pre-Studio Alchymia air about it.” That none of these pieces is in current production does seem odd. Yet it is the process, not the product, that is the fascination of this work.

In the end, one must be grateful that the role of the serious artist designer is more accepted today than ever before.

[Kirk V. Blunck]

Thermo-cup, a prototype of a partially disposable drinking vessel, is made of outer pieces of glass or plastic and inserts of disposable plastic. Inserts are matched precisely to the outer cylinder to stay in place. A push with the thumb releases the grip. Inserts can be cleaned or discarded.

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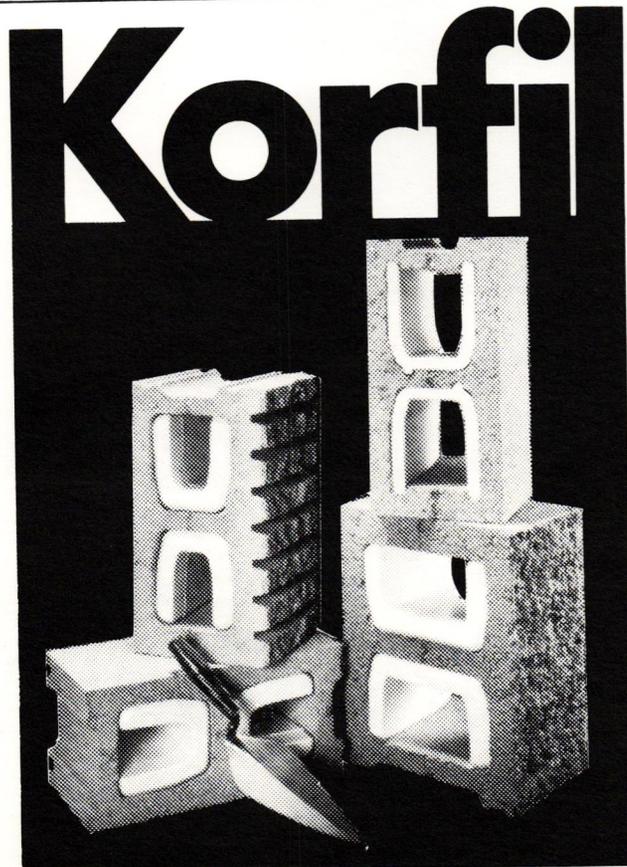
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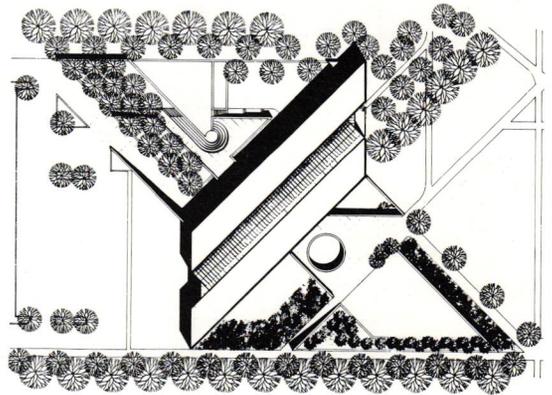
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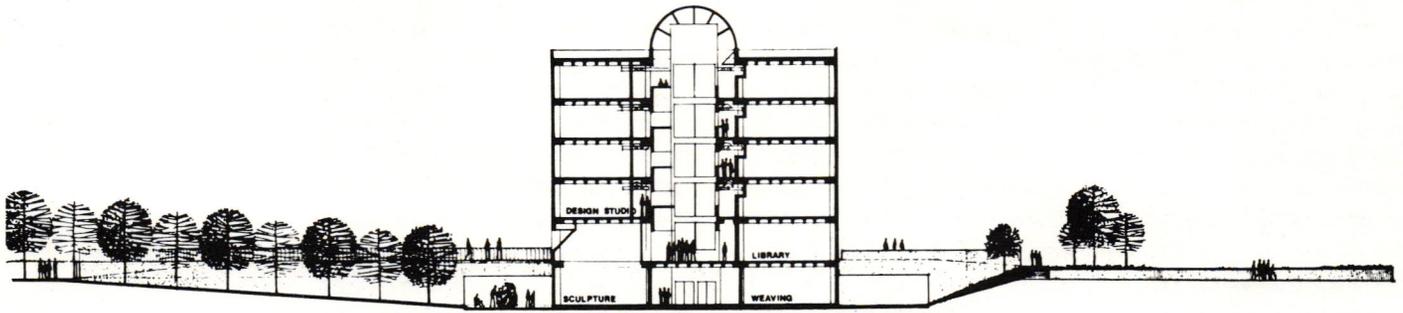


THE ISU DESIGN CENTER

AN EVALUATION

This article is the first of a series of post-occupancy evaluations of significant Iowa architectural projects. The Design Center was chosen as the initial subject because of the special influence that this building has on the architectural community of Iowa. Like it or not, Iowa architecture is somewhat inbred, with a significant percentage of its architectural practitioners being alumni of, or at least very familiar with, the I.S.U. Department of Architecture. As can be expected, any building with this much exposure to architects is going to be a prime candidate for analysis and discussion. We encourage response from those who wish to agree or disagree with the content of the article.





Perhaps no public architectural commission can be undertaken without some awareness of the special group likely to serve as the severest critics. The Chairman of the Board, for example, may be thoroughly enthralled with the conceptual clarity of a design or the strength of the image projected, while the secretaries and managers carry on a caustic day to day critique of organizational flaws and functional annoyances. The architect is to a large degree separated, if not insensitive, from such intense post occupancy evaluation. Unless a special personal effort is made or an unusual fee structure has accommodated such project assessment, candid review on most projects will be limited to a few remarks or second-hand complaints. Client satisfaction becomes even more problematic when the client is divided into hierarchal corporate levels with conflicting operational goals.

With this in mind, the design of a school of architecture poses an immense challenge. Faced with a faculty whose primary task is a daily critique of student architectural projects unencumbered with clients or budgets and a student base nourished in architectural history classes with the greatest examples of the world's greatest architects, only a masterpiece can remain unscathed. Maybe.

It is little wonder, then, that many schools of architecture have been content to remain in environments ranging from neutral to banal. Some of that, of course, can be attributed to the place generally afforded architecture and its allied arts throughout American culture. And admittedly, talented music, art and architecture students are as often attracted to a particular institution by prominent faculty as state-of-the-art facilities.

The School of Architecture at MIT, for example, has long held its design studios in a quite distended and chaotic assortment of leftover classrooms, half-empty storage buildings and discarded Cambridge housing. The philosophy of "built form" espoused by the faculty finds its most consistent expression at the beginning of each semester as design students possessively construct and cordon off their territory with leftover, found and reused materials. The result is an assemblage more reminiscent of an Italian hill town than an institution that once championed the *Ecole des Beaux Arts* in the United States.

The students of course have discovered that they actually liked these "found spaces" scattered about campus, for their qualities of space and light, for their faintly

old fashioned air and for their irregular dispositions. All this contrasts sharply with the regimentation of the modern additions to the original *Beaux Arts* structures and the ordered and disciplined ethic of a largely technical, engineering oriented Institute.

At the other end of the spectrum, Harvard University's Gund Hall set out with an ambitious preposition and years of rhetoric about supportive social networks. It was boldly intended from the very outset to achieve status as a contemporary landmark. And it is against this claim, fairly or not, that The Graduate School of Design has always been judged. Gund Hall was born in the turmoil of the late sixties and embroiled in student protests, faculty opposition, debate in the architectural press and a confrontation between architect and client recalling those classic scenes in *"The Fountainhead"*. The building has been the subject of post occupancy evaluations, professional symposia, design studio problems, a doctoral dissertation and reviews of its reviews by every major architectural journal.

Designed as a model of what modern architecture could be with a synthesis of mechanical and structural engineering skill to assist the experience of learning design, it has instead served as a primer for architectural criticism. Peter Blake labeled the GSD "a place for students, a challenge to the establishment from youth, idealism, imagination and general snottiness". Wolf Von Eckhardt, Hon. AIA, called it "something they ought to have a zoning law against...it looks like a factory for plastic plants." At the same time, however, the American Institute of Architects recognized its excellence with a national Honor Award, and Ada Louis Huxtable, critic for the *New York Times*, vacillated between praising the "brilliant parti" and chastising the "almost dictatorial design for a school grasping uncertainly for concepts and rent by dis-sension".

Against such a background of extremes one can speculate on the mixture of excitement and apprehension surrounding such a building program at Iowa State University. It is now five years after completion, seven years after Charles Herbert and Associates began the ISU Design Center project, and there has been ample time for evaluation, criticism and praise.

The Design Center was conceived as a symbolic and physical unification of the Departments of Architecture, Applied Art, and Landscape Architecture and Urban Planning into the newly formed College of Design. Program-

ming was done by a joint committee from the departments and resulted in a preliminary program. This program was then, with much controversy, pared down and modified to meet budget and space allocations and university requirements. Equally controversial was the site selection process, with a more peripheral location favored by long range planners winning out over some choicer central campus sites. The results of adhering to the official program have been one of the areas of criticism for the building.

The building program quotes the General Design Objectives provided by the Building Committee:

"The designer will accommodate and satisfy the stated needs. In so doing, he should create spaces felt by the users to be 'good' for the purpose.

"The design should form a professional, studios, and inspiring environment for the education and personal growth of designers. The environment should manifest design excellence incorporating exemplary solutions to problems of the whole and of the parts, resulting in architecture which unites space, people and purpose."

The big question faced, by the architects was whether a building project of this scope wants to be a background building or needs to make a bold statement. The fact that the latter course was chosen is a reflection on the site, which is relatively featureless, on the client, which is a new college flexing its muscles and seeking identity, and on the architects, who might not have been the ones chosen if a background building were deemed appropriate. As has been mentioned, bold statements such as Harvard's Gund Hall and The Design Center (equating of the two is not intended) are certainly more open to reaction, but this reaction swings from the extremes of violent criticism to sheer delight and inspiration. Indeed, the dialogue inspired by criticism, when added to the positive inspiration on the high side, results in a greater whole than a more featureless, pragmatic solution.

The siting of the building on the diagonal serves to allow entrance through the face of the building from the primarily northwestern approach to the site. It also takes advantage of views of wooded areas to the northwest and of the campus to the southeast.

The skylit gallery space is THE space of the building. Two separate classroom and office buildings are set upon a base enclosing noisy and isolated functions; between these buildings is a "street" which for environmental reasons has a clear enclosure. It is here that much of the interaction of the newly combined departments can occur. While there are obvious energy-use implications of this skylight, it was felt that by designing it as carefully as possible that the psychological value of the space far outweighed the energy concerns. Even with the skylit gallery, which uses tinted glazing and has less rigid climate control, this building is among the most energy-efficient structures on campus. The gallery's many balconies and bridges offer numerous opportunities for communication and interaction between students, faculty, and the various departments. While each department tends to be located in its own area of the building, the openness and shared spaces help create

the feeling of a unified college. Architect Charles Herbert described the gallery as being much like a street with bridges overhead, uniting buildings on each side.

The studios were programed and designed as enclosed spaces, in spite of considerable sentiment for open studios which would allow "interaction". The program called for a maximum of sixteen students per studio and they were designed accordingly.

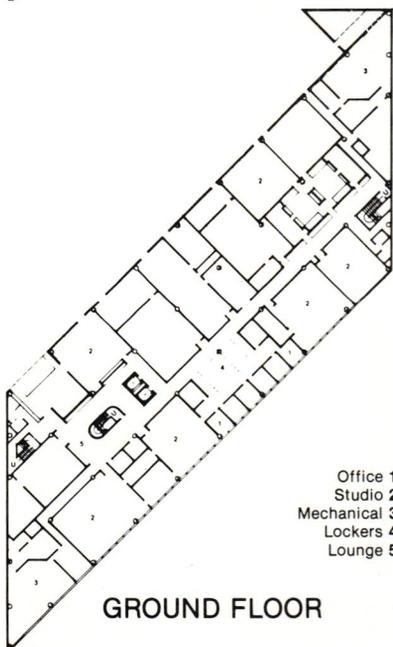
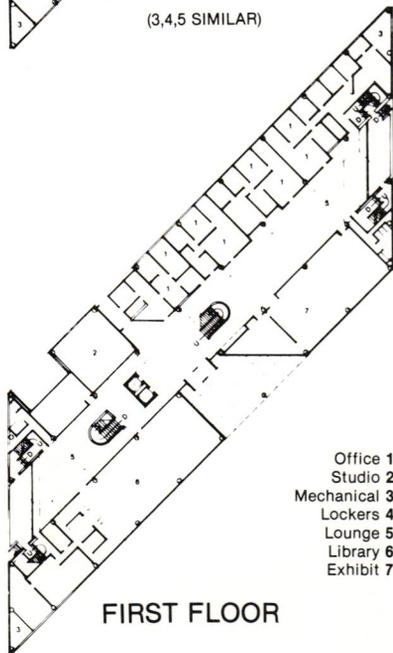
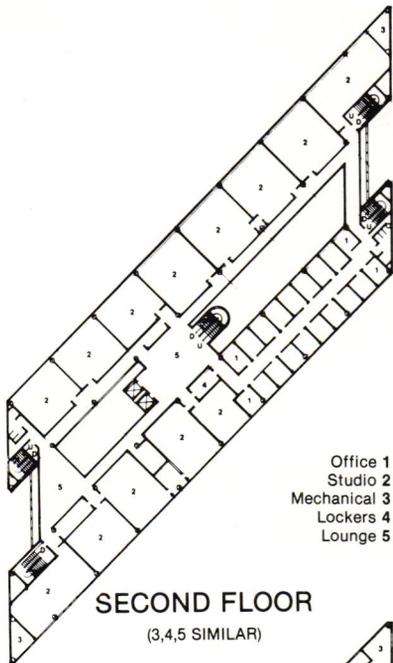
The color scheme was kept neutral so that people, displays, and events in the space could supply liveliness. Structure and mechanical systems are exposed and expressive of their functions.

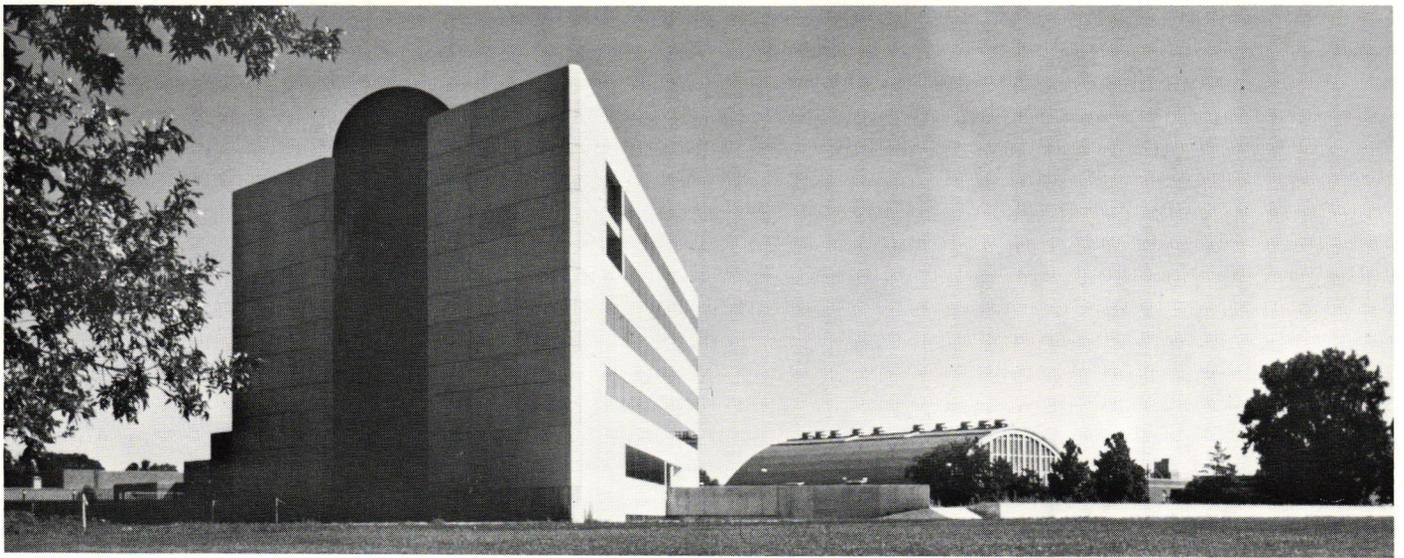
Fenestration was conceived as tinted for sun control but was changed to clear, at the users request, for better color rendition. Instead, fixed reflective blinds were installed to reflect unwanted solar gain. Ventilating window sashes were detailed and offered as a construction alternate but rejected by the university for reasons of air infiltration and maintenance. The HVAC system is designed to adequately temper the space when it is operating.

Reactions to the Design Center have been both strong and strongly voiced.

Students seem to go through phases in their liking for the building. First reactions are very good. Students have said the Design Center itself is what inspired them to come to Iowa State. They are excited by the prospect of centering their activities in such a "dynamic" structure. As students mature, especially in architecture, their criticism grows. They become knowledgeable of building techniques and design concepts and begin applying this knowledge to "their" building. They learn about energy conservation and question the skylight. They work late in their labs and swelter because the H.V.A.C. is off and the windows will not open. In fact, students actually unglazed a lab window and inserted an operable double-hung window as a protest. They are crammed 18 or 19 students into a space programed and designed for sixteen. Some don't like the isolation of the labs from the central space, preferring an "open plan". Others, however, like the security and privacy of a lockable studio. After students graduate their reactions tend toward the positive. The overall impressions are that the Design Center was a successful and even exciting place to have received their education.

Faculty reactions also run the gamut from praise to complaints. Some faculty have jury-rigged their reflective blinds so the that they open, upsetting the HVAC balance. The energy-use of the atrium remains a concern. The neutral colors bother some, but others like the opportunity to let the events be the decor. The most striking example of this was the banner display which filled the gallery with multi-colored streamers (some of which have been permanently retained for display). Faculty are bothered by the programmed lack of sufficient jury rooms, others feel that despite poor acoustics that the gallery itself makes a dynamic and exciting jury space where much interaction can take place. There are comments that the gallery form implies a street with linear travel but no destination. The diagonality of the form is



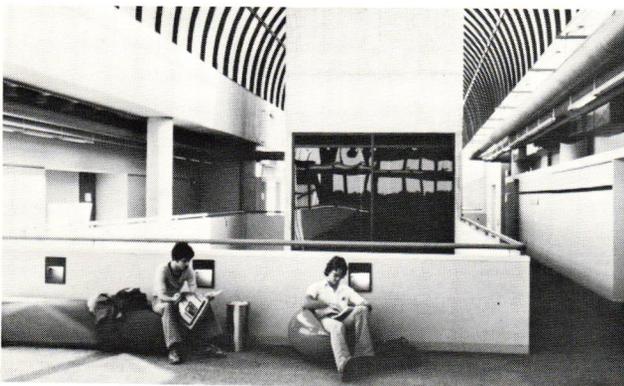
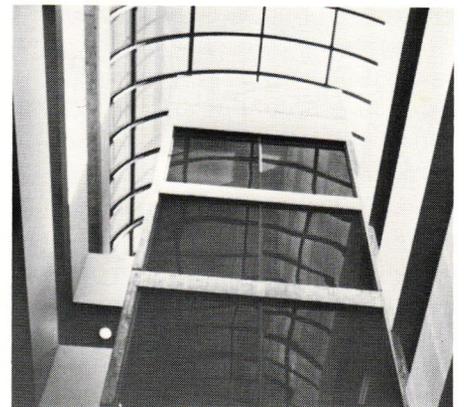
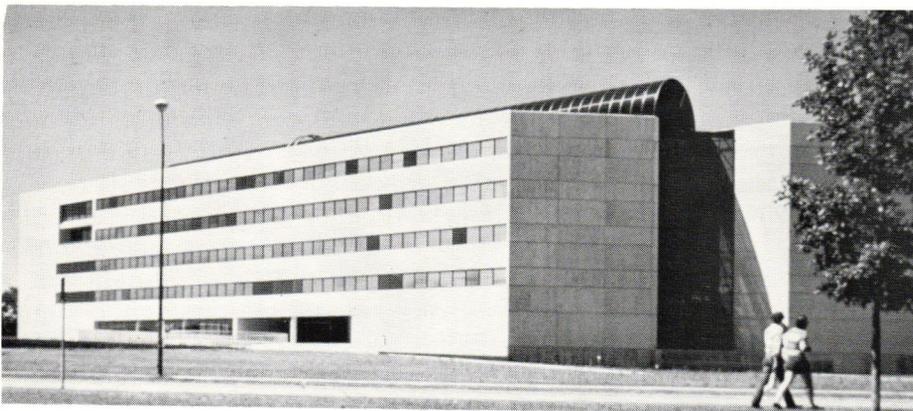


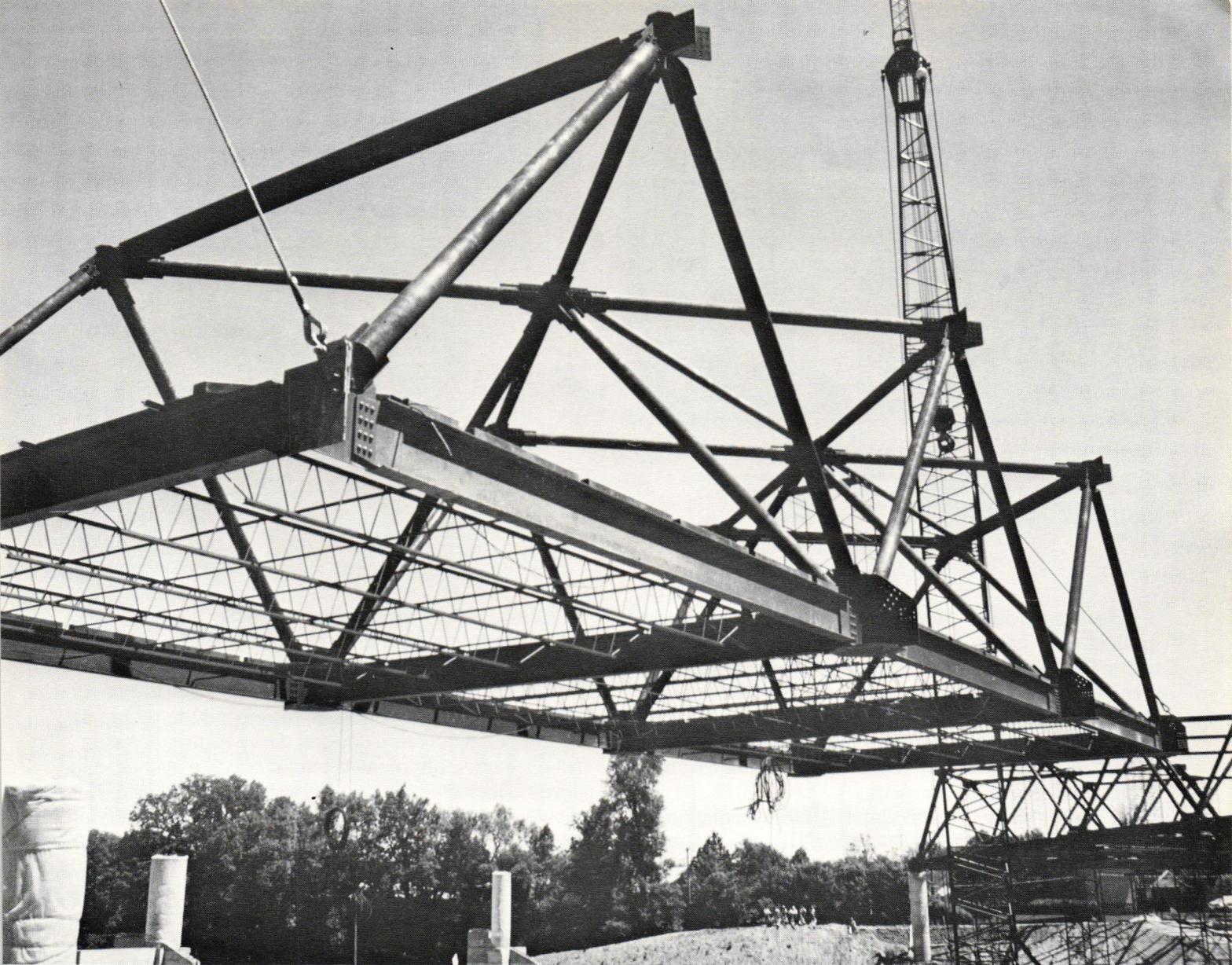
criticized but the views, both interior and exterior, are liked. Many of the faculty argue that the pluses outweigh the minuses, and that the Design Center does serve as a dynamic center for the College of Design.

Professional reaction has been seen in several magazine articles on the Design Center, including a discussion in the July 1980 *Interiors*. The 1978 AIA Central States Regional Conference awarded the Design Center an "Award for Excellence in Architecture", demonstrating that the architectural profession feels the project to have merit.

The Design Center was conceived as a project to unify and give identity to a new College of Design. It was executed as a bold-stroke statement which by its very nature was bound to invoke criticism, and it has. But it is felt that the dialogue and learning provoked by this criticism only adds to the value of the drama created by the structure itself. [J. Mark Schmidt, Kirk V. Blunck]

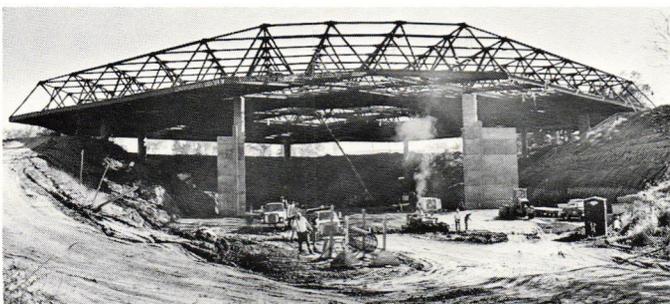
J. Mark Schmidt works for Charles Herbert and Associates, the project architect.





Teamwork Building The Carver-Hawkeye Arena

Karen Henderson



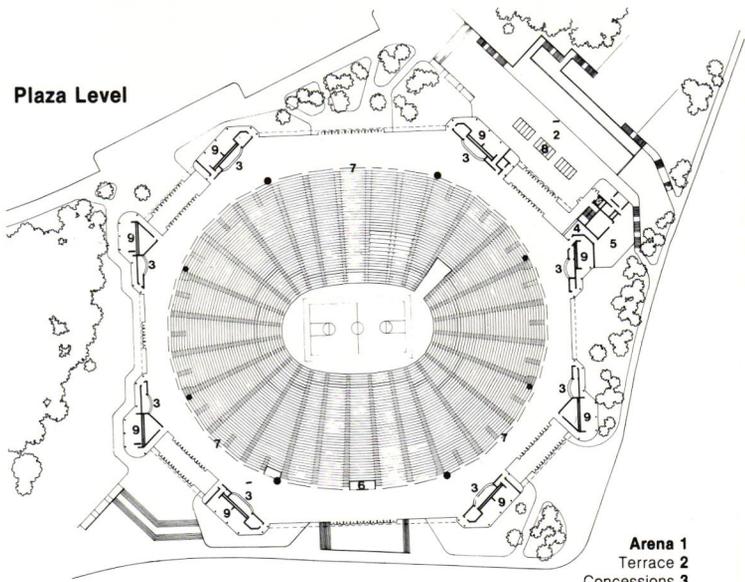
A 420 x 378-ft rectangle with clipped corners, the 26.5-ft-deep truss in plan resembles the seams of a patchwork quilt. The main repeated unit is 42-ft square weighing 18.4 psf, formed by four wide-flange bottom chords, 27 in. deep. Round tubes 12 in. in diameter, some with fins, are used for both the diagonal web members and the skewed upper chords. If the upper chords were in the same plane as the wide-flange beams, they would inscribe 29.5-ft-sq diamonds in the bottom squares.

The new University of Iowa Carver-Hawkeye Sports Arena is capturing the limelight as it moves down the final stretches of construction for its November debut. Its unique design and challenging construction are receiving national and international recognition.

The 15,000-seat Arena, part of a \$24 million University recreation expansion program, includes refurbishing of the present field house, a 60,000 sq. ft. ancillary building, with coaching staff offices, expanded playing fields, and site utilities. The multi-use facility will host men's and women's sports, including basketball, wrestling, football, gymnastics, track and tennis, as well as concerts and graduation ceremonies.



The arena is being nestled into a natural, 50-ft-deep ravine that only had to be excavated by about 10 ft and widened. A clear glass curtain wall will cover the 15-ft-tall above-grade portion of the arena, which spills out over the edge of the bowl and includes entry and access areas. The structure's, long-span steel roof is now in place. It is the patented Takenaka truss—a space truss with its top chords skewed 45 deg from its bottom.



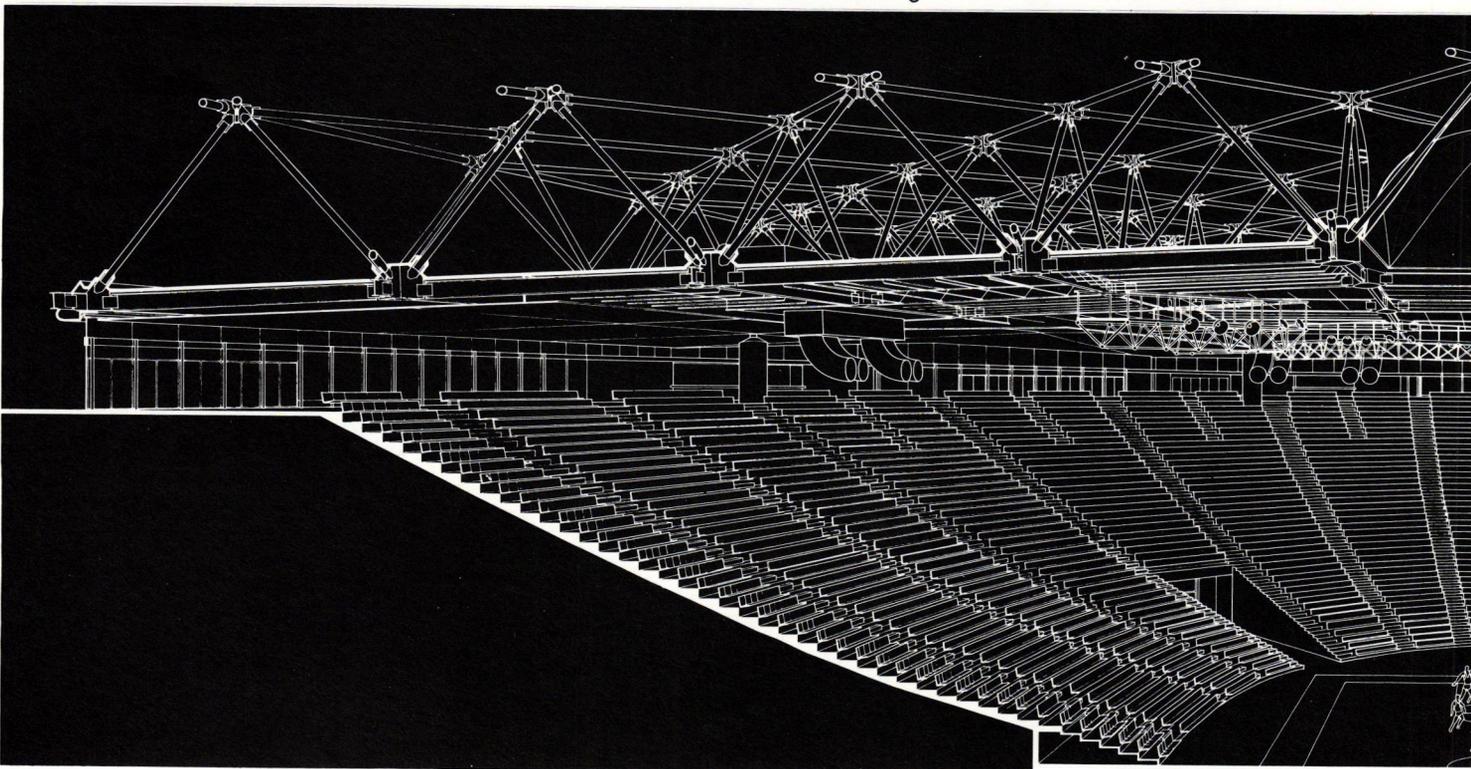
- Arena 1**
- Terrace 2
- Concessions 3
- Ticket Sales 4
- Ticket Office 5
- Television Camera Platform 6
- Handicapped Viewing Area 7
- Skylights 8

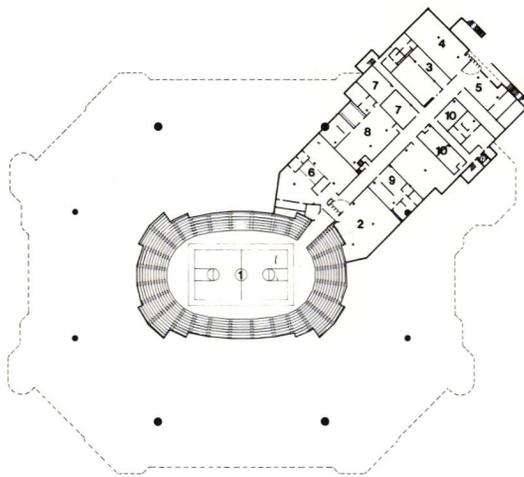
The moving force behind the Arena is its dedicated, professional construction team and their spirit. "The commitment of everyone working on the Arena and their esprit de corps," says University Project Manager, Bill Barnes, "is as high as I have seen. We have an excellent team. Even during late snows, sub-zero temperatures, and mud and water from heavy rains, all of our workers have been on the job every day."

University staff, Durrant Group Architects/Engineers, Caudill Rowlett Scott Architects, (CRS, Inc.), Geiger-Berger, Assoc., Shive-Hattery & Assoc., CM Constructors/Managers, Inc., (CM, Inc.), and a host of strong sub-contractors and consultants are building the Hawkeyes' unique home.

Durrant Group, associate architects, are managing construction drawings and documents and administering and inspecting the work to insure design criteria are met. Geiger Berger, structural engineers, well known for their innovative roof concepts, developed the roof truss and structural concrete designs. Shive Hattery & Assoc., civil engineers, are responsible for building utilities, and sitework, including grading, parking lots and paving. The innovative Arena design was developed by CRS, the architectural arm of the CRS Group, Inc.

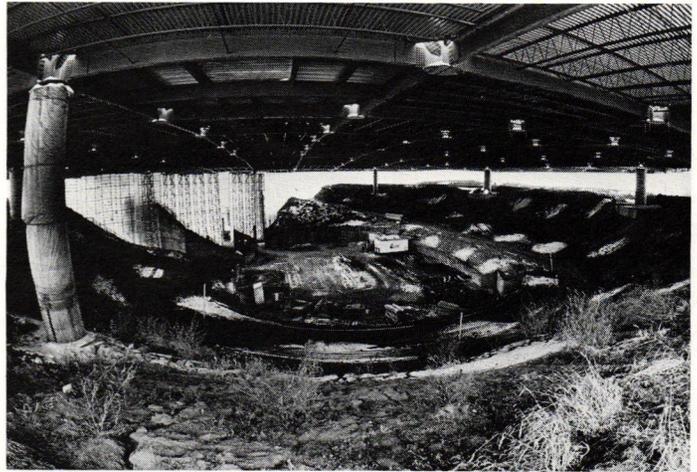
The subterranean design captures the earth's natural insulation, reducing heating requirements. Placement of the roof plane on the bottom chord of the roof truss reduces building volume to be heated and ventilated. A





Level One

- Arena Floor 1
- Storage 2
- Laundry 3
- Mechanical 4
- Shipping 5
- Training 6
- Classroom 7
- Women's Lockers 8
- Basketball Lockers 9
- Visitor's Lockers 10



Although the arena posed many challenges, its ravine site offers advantages. The site needed little excavation and there is only about 15 vertical ft of exposed wall around the structure. The rest is below grade, which helps keep the arena energy efficient, as does placing the roof deck on the lower chords, of the truss. According to CRS President Paul A. Kennon, this reduces the enclosed space to be heated or cooled by 3.6 million cu ft. The fabric lantern will also help save energy by reducing artificial lighting needs.

fabric "lantern" atop the arena naturally lights center court (a dramatic effect), reducing artificial lighting needs.

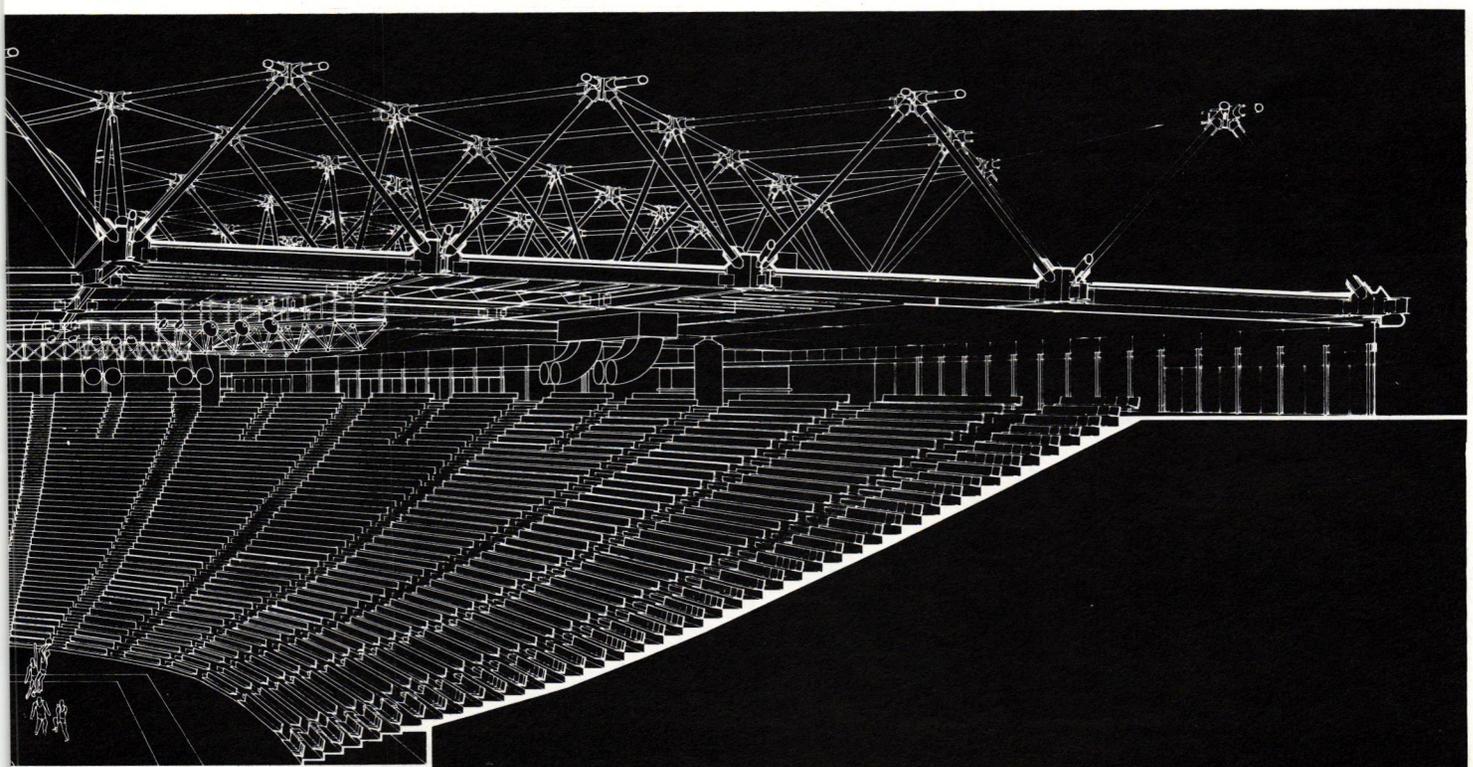
Handicapped access to the ticket office and four concourse entrances are on grade, and provided to all floors of the ancillary building by elevator. The building is a symbol of the University's national sports recognition. Unobstructed spectator viewing and the Takenaka skew chord roof truss highlight the facility. Engineers have visited from Japan, Saudi Arabia, China and Mexico to learn about the truss.

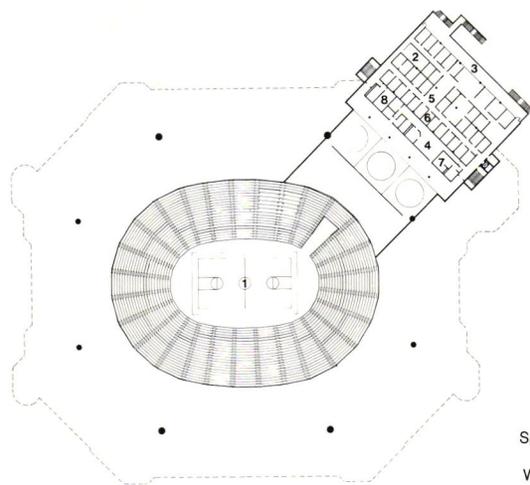
The Arena's design looks both to the past and to the present. It fuses the classical solution of utilizing the natural contours of the earth for a seating arena with the

bridging of a large span, using the most efficient computer engineered light-weight structure suited to a cold climate. This coupling gives a human scale to a large scale building program and results in a highly energy efficient design solution.

Managing the project, and directly responsible to the University, is the Iowa office of CM Constructors/Managers, Inc. CM's job is two-fold: to insure project feasibility and quality during the design phase; and to supervise construction, including scheduling, inspection, quality control, and cost control.

Like anything new, the arena has its critics as well as its fans. Bad weather caused delays, yet the arena is targeted to be complete for Iowa's first fall basketball





- Arena 1
- Sports Information 2
- Terrace 3
- Wrestling Lockers 4
- Light Court 5
- Coaches Offices 6
- Men's Coaches Lockers 7
- Women's Coaches Lockers 8

The likelihood of moisture is one of several elements in the harsh Iowa climate that Geiger-Berger had to accommodate. The overall 25-psf steel roof is designed for a 35-psf snow load, an 8-psf ice load, plus an assumed 1.5 in. of ice on exposed members. The frame is designed for winds up to 110 mph; and on exposed members, a temperature rise of 130 deg or a drop of 90 deg from 68F datum.

game. The attention the arena is receiving is a credit to the arena team's experience. They have turned a series of events that could have spelled delay for an already tight schedule into a success.

As excavation of the arena bowl began, August 1980, unseasonably heavy rains kept the mud on everyone's boots. Excavation of the bowl, a 50-foot deep natural earth ravine, proceeded more slowly than expected. As excavation neared bedrock, a series of "swiss cheese-like" cavities or voids were found. The voids were injected with concrete for reinforcement.

The bowl excavation was completed in November, a month later than scheduled. But, the wet weather and frost postponed laying a sand liner or granular buttress inside the bowl to support the stadium seating.

Not completing the liner could have delayed the structural concrete to the following spring, and posed a significant schedule setback. It demanded the team revise the scheduling of bid packages to maintain the tight schedule.

In response, the schedule sequence was completely changed. Originally the roof truss was to be erected last; instead it was completed first.

Since the structural steel and concrete packages are the two largest packages, they were very important to the project's completing on time and within budget. The team made a critical decision when they marketed the structural steel package in July 1980, instead of in Jan. 1981 as originally planned. This enabled fabrication and erection of the roof truss to begin in early spring 1981.

Fabrication and erection of the roof truss was complex and required 9 months (March 1981 to November 1981). Careful attention to details demanded ultra-sonic and or magnetic particle testing, and inspection of all welds; all bolts were tested during and after installation.

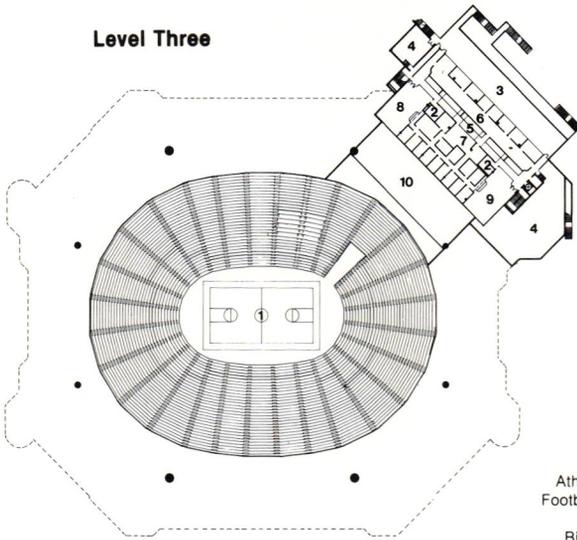
As structural steel was completed in November 1981, attention turned to the bidding and pouring of the structural concrete. A particularly complex package, the arena's "pie-shaped" design and varying riser heights and lengths made contractors uncomfortable in predicting labor and scheduling requirements.

Value engineering studies were immediately conducted to determine the most cost-effective building method. Contractors, CM, CRS, Durrant, Geiger-Berger, and consultants all analyzed the concrete requirements. The arena bowl's rake and oval shape required concrete pours be done over a curved surface, in two directions, making the pouring and forming system very complex. Riser heights vary across the surface of the bowl, with riser lengths increasing with each level. This called for a flexible forming system that could adapt to the variable riser lengths and heights. A forming system to speed up the process and make labor and scheduling predictable was also needed. The usual "build and remodel forms as needed method" (on site) was too time-consuming.

The design team analyzed the pouring method and forming system used on a similar pour at Grambling College, Grambling, La.

They identified a forming method to reduce the pouring and forming time from 23 weeks to a total of 14

Level Three



- Arena 1
- Toilets 2
- Terrace 3
- Mechanical 4
- Light Court 5
- Athletic Offices 6
- Football Coaches 7
- Iowa Room 8
- Big Ten Room 9
- Open to Wrestling Practice Below 10

The truss bears on eight concrete columns, as tall as 80 ft and located 42 ft in from the edge of the eight-sided roof, each one almost opposite a corner. The columns create a 42-ft cantilever around the periphery of the roof. They, in turn, bear directly on bedrock or capped clusters of caissons to bedrock. A rigid metal deck, insulated and waterproofed, rest on joists spanning between lower chords to form the surface of the roof. The exposed diagonals and uppers chords are composed of weathering steel. Eventually, a Telfon-coated fiber-glass fabric "lantern," resembling a tent with two peaks, will replace the metal deck in the center two squares of the roof. The lantern, which closely follows the geometry of the diagonals, is translucent so it can admit natural light into the arena.



weeks. The one-of-a-kind, custom made adjustable forming system is designed by a forming company engineer. The adaptable forms can be adjusted to the varying riser heights and lengths by shortening, lengthening, or removing the forming pieces as the pours are performed. The layout and forming of the elevated concrete risers, now underway, is expected to be completed in 14 weeks, or early August and is now proceeding on schedule.

The structural concrete and structural steel packages emphasize the need to keep the job moving smoothly through team work.

Working together as a team and seeking contractors' input from the start, are the keys to the arena's success. It's especially important in maintaining the project's schedule.

Early in the project, the Master Critical Path Method (CPM) Schedule, computerized for quick updates, was prepared.

Each contractor is asked how he would do the work, and a realistic time frame in which to accomplish the work. Contractors set their own work schedule and are personally involved in meeting it.

Following through on the schedule, updating and enforcing it once contractors have committed is crucial. Every contractor receives a schedule update at least once a month. The Master CPM, always in clear view at the CM site office, is updated daily and weekly. Everybody has the same schedule and knows what the expectations are.

Working together, the project team continues to meet many project challenges and has realized an approximate \$700,000 savings in several bid packages. The correct packaging of contracts for bidding, working closely with and seeking contractor input, scheduling bid pacs as necessary, rebidding when required, holding pre-bid conferences, and particularly encouraging contractors to suggest bid alternates have contributed to these savings.

Work continues on the arena roof, now nearly complete, and on the pouring of concrete walls and floors for the ancillary building. The elevated concrete risers are underway and proceeding on schedule. Plumbers and electricians are on site; fire sprinkler people are gearing up; the steam line extension is starting; and the University access road is being paved. Backfilling around the excavation is also continuing.

When it is time for the University to turn its attention to moving in, CM will also assist in providing an owner move-in schedule, and insure the schedule is met. This minimizes disruption to University work schedules.

As the Hawkeyes' new home nears completion, the University is well on its way to marking a new milestone in its sports history. The innovativeness, team work, control, and enthusiastic spirit of all who are building the Arena are making it so.

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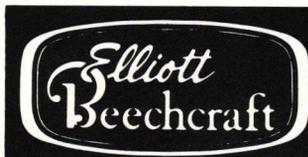
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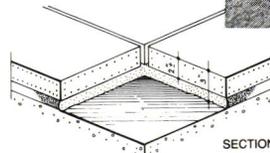
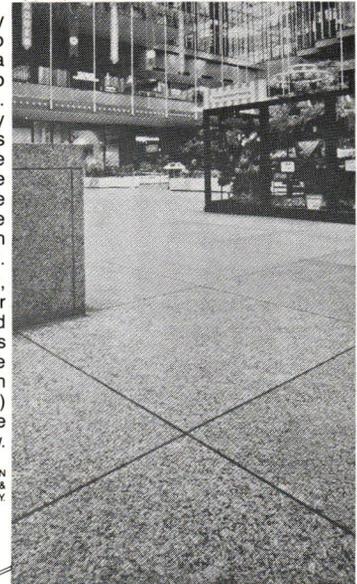
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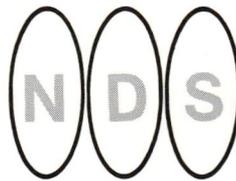


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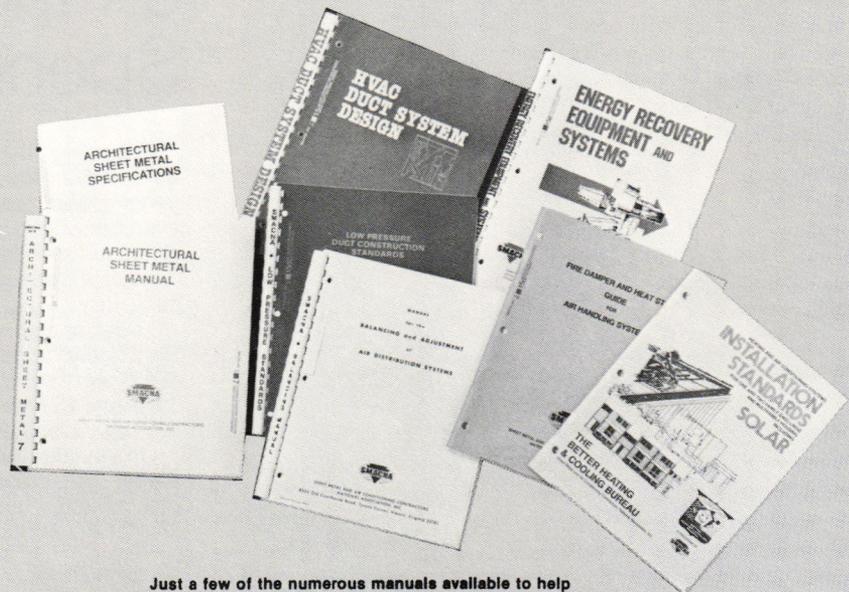
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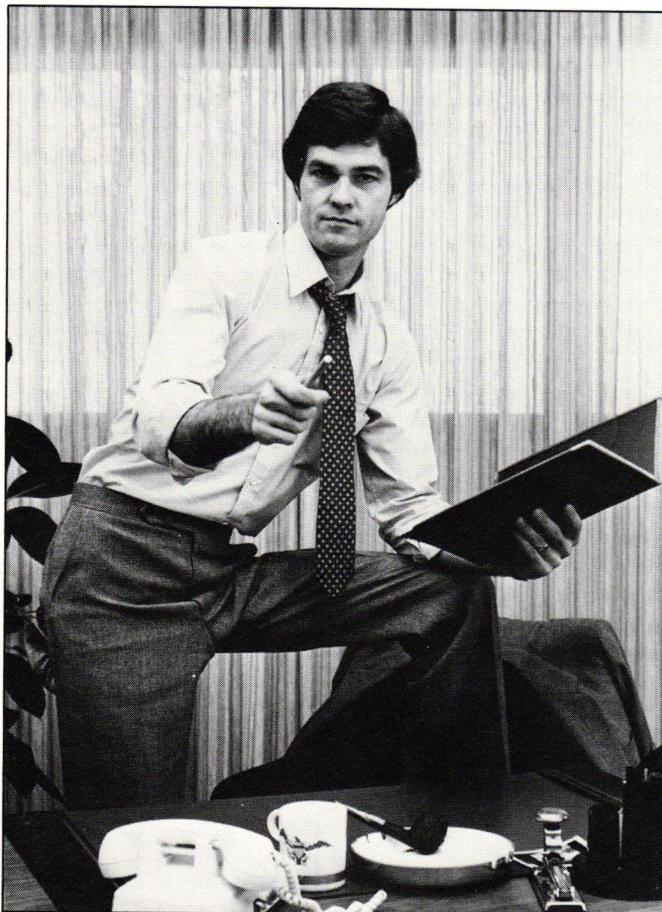
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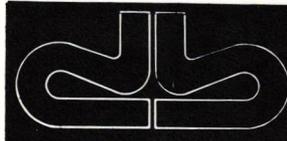
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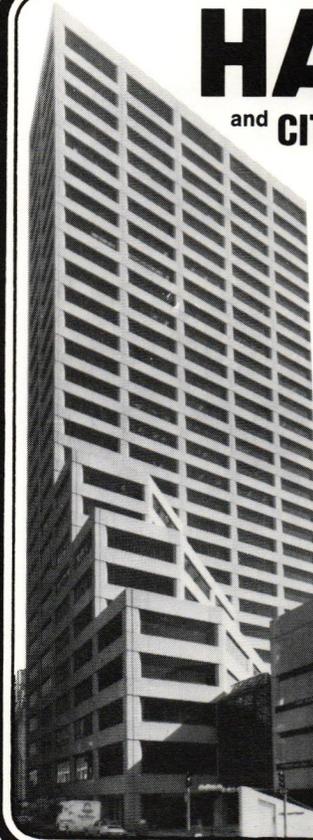
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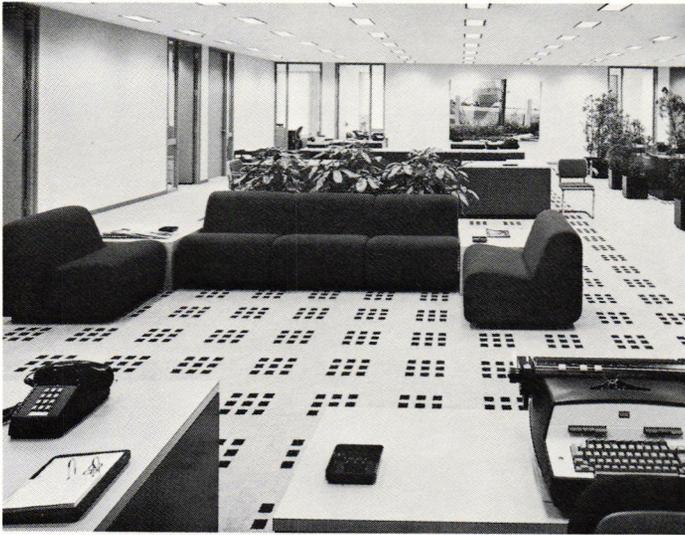
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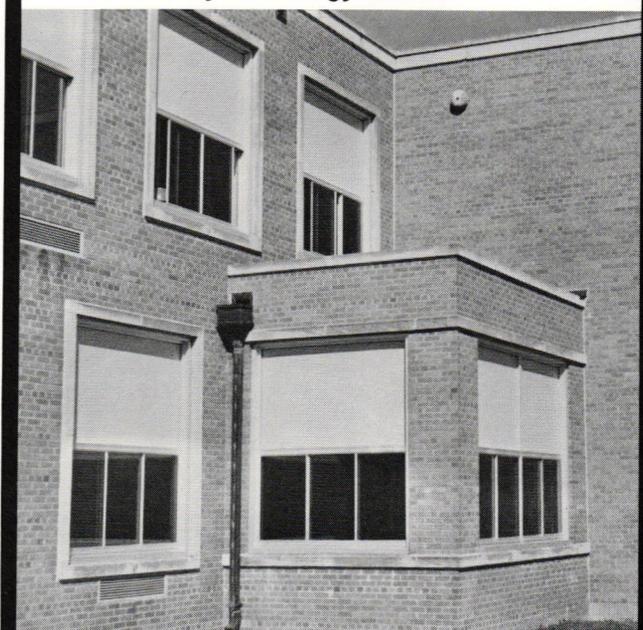
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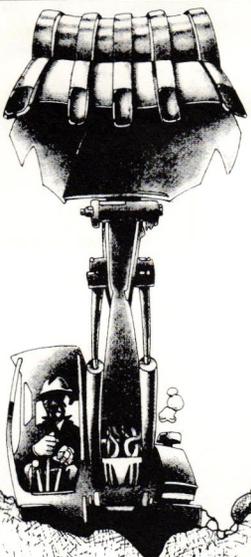
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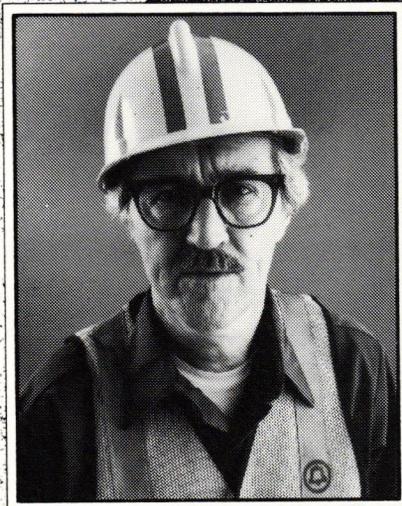
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AIA Selects 12 Projects For 1982 Honor Awards

Twelve architectural projects—half of them residential and several of them relatively small in scale—have been selected to receive The American Institute of Architects 1982 Honor Awards.

The nation's highest professional recognition of design excellence, the Honor Awards was conferred on the 12 winners at the 1982 AIA National Convention in Honolulu, June 6-9.

Selected by two juries from 481 entries, eight of the winners have been designed and completed within the past seven years; the other four are older structures that recently have been renovated or adapted to new uses. They range from a modern Chicago library for the blind and handicapped to a rehabilitated Victorian neighborhood in Denver.

While characterizing the selected projects as "modest and low tech," the current-use jury praised the winners for their sensitivity to their surroundings, spatial organizations conceived for the benefit of users and appropriate use of traditional building materials and methods, which the jury called "indicative of positive trends within the profession today."

The winning projects and architects are:

CURRENT USE

Le Jeune Residence
Orono, Minn.

Illinois Regional Library for the
Blind and Physically Handicapped
Chicago

Residence
East Hampton, N.Y.

Garfield Elementary School
San Francisco

Lath House at Heritage Square
Phoenix

Frederick Bentz/Milo Thompson
Robert Rietow, Inc.
Minneapolis

City Architect
City of Chicago
Joseph W. Casserly
Consulting Architect
Stanley Tigerman & Associates
Chicago

Eisenman Robertson Architects
New York City

Esherick Homsey Dodge
and Davis
San Francisco

Robert R. Frankeberger, AIA
Phoenix

Macondray Terrace
San Francisco

American Academy of Arts
and Sciences
Cambridge, Mass.

Talbot House
Nevis, West Indies

EXTENDED USE

Schulman House Addition
Princeton, N.J.

Valley National Bank
Des Moines

Curtis Park Face Block Project
Denver
Oak Park, Ill.

Hood Miller Associates
San Francisco

Kallmann, McKinnell & Wood,
Architects, Inc.
Boston

Taft Architects
Houston

Michael Graves
Princeton, N.J.

Charles Herbert and Associates
Des Moines
Original project architects:
Proudfoot, Rawson, Souers and
Thomas (Now: Brooks, Borg and
Skiles)
Des Moines

Long Hoeft Architects
and McCrystal Design

Chicago

In citing the Valley National Bank the jury stated, "This award is given for excellent restoration of a fabulous original. The jury recognizes both Proudfoot, Rawson, Souers and Thomas, original project architects, and Charles Herbert & Associates, architects for the restoration."

Restoration was undertaken with a great deal of design restraint as well as thorough technical competence. The brilliance of earlier detail was brought out fully in the process, in addition to which the principal banking space was improved through better handling of both natural and artificial light. The jury had reservations relative to furnishings chosen, but felt that the authority of the original design and its enrichment remained exemplary."



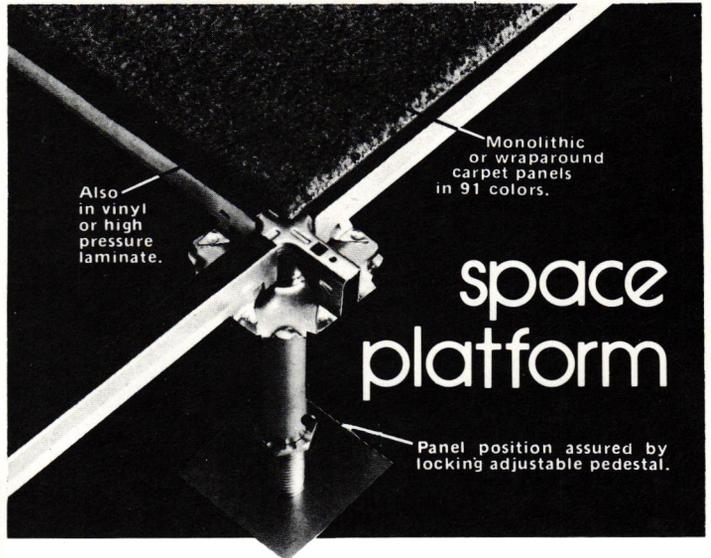
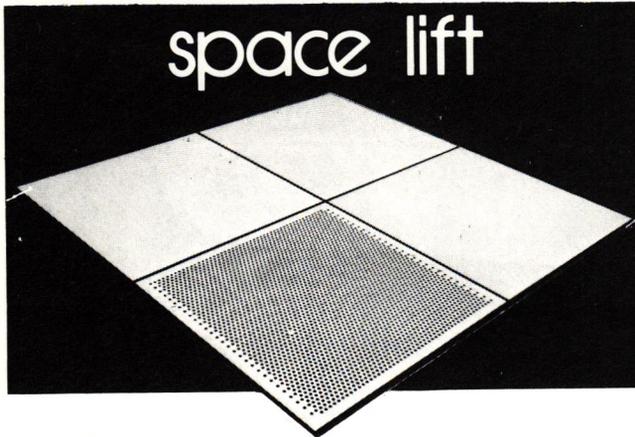
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