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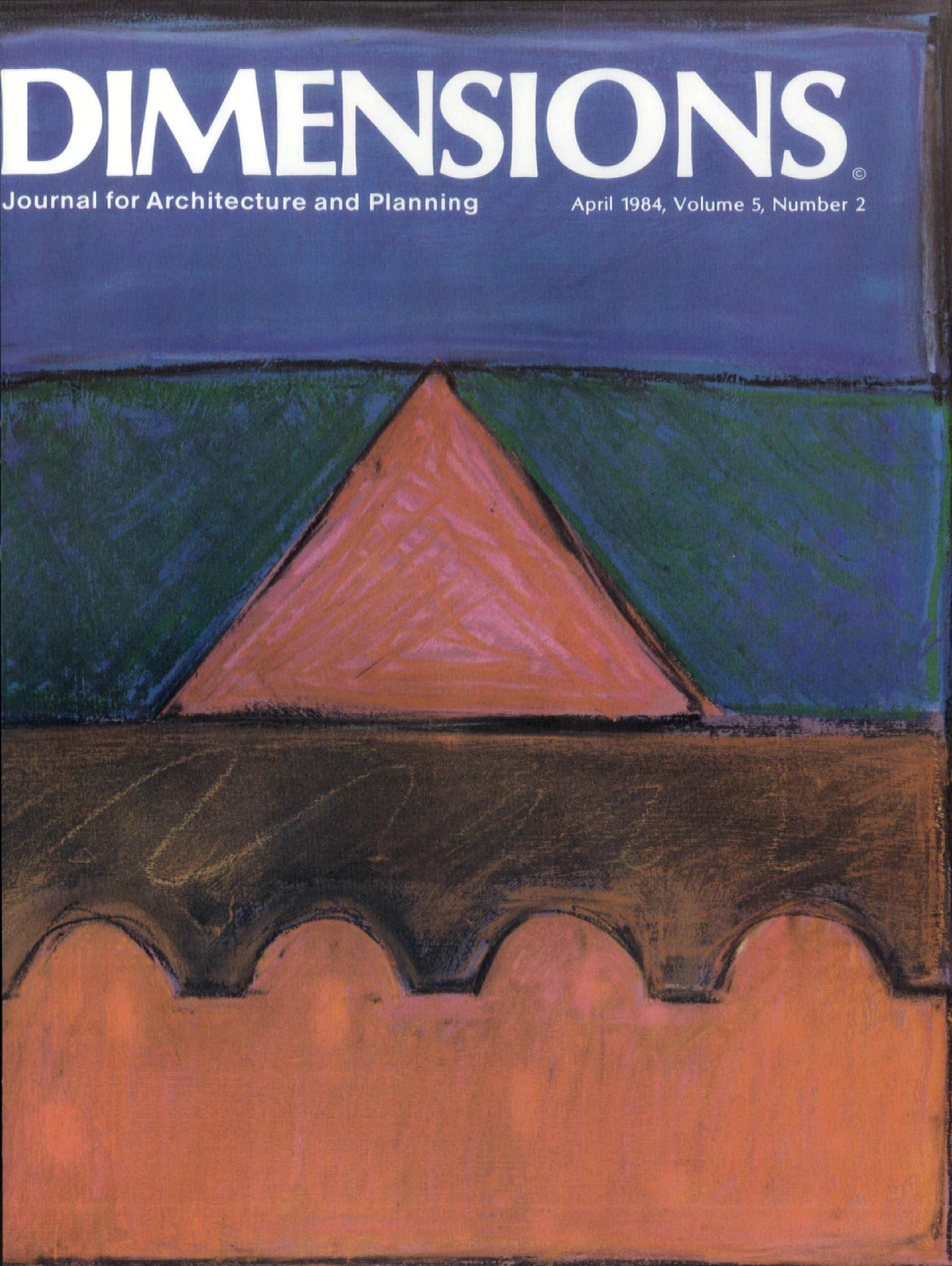

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On the cover

Artwork by Patricia S. Griffin

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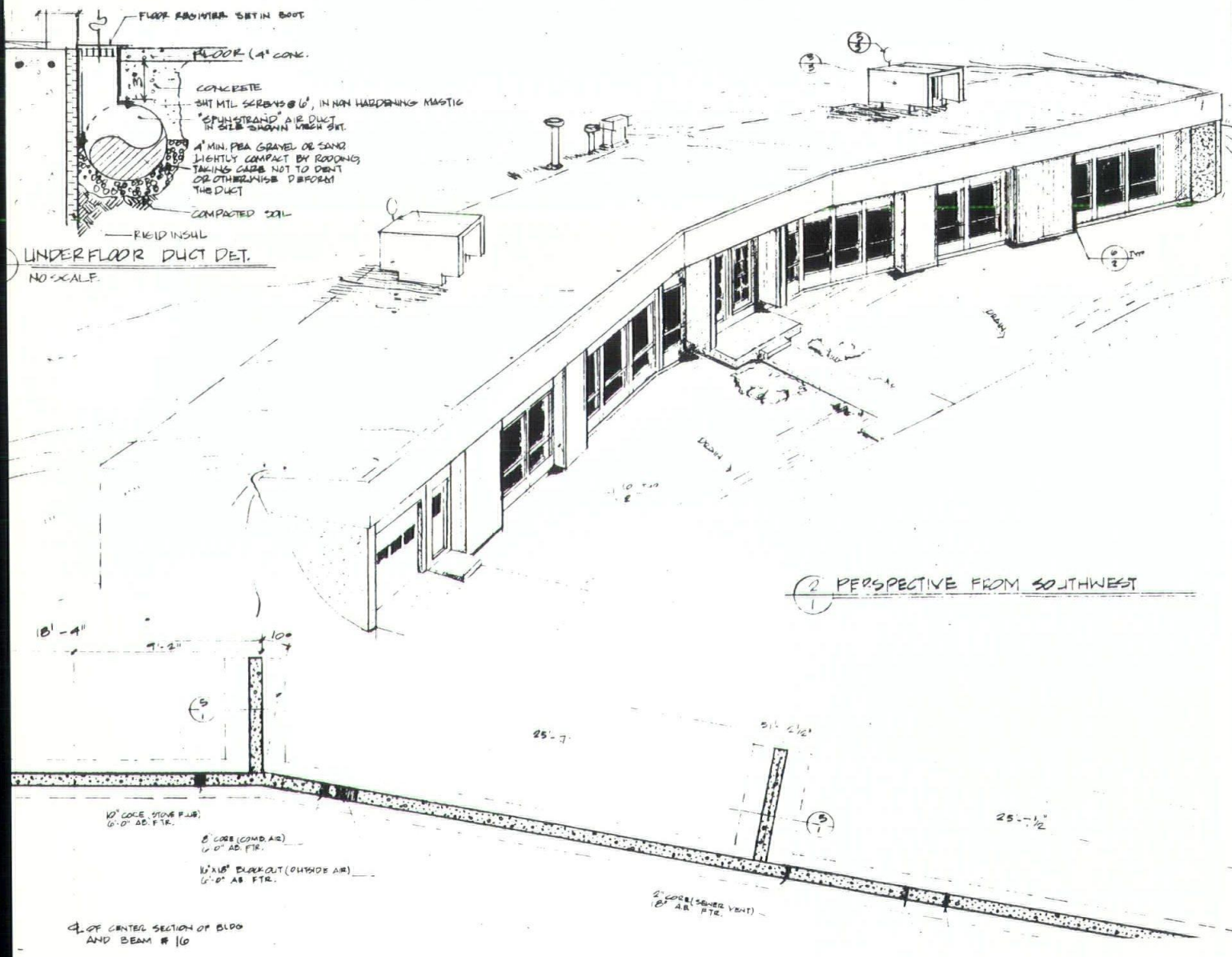
Grass On The Roof:

One Earth Sheltered House in Retrospect



by James D. Teply

Author's Note: When I was first contacted to design an earth sheltered house in 1980, my research into previous designs revealed little information was available about the technical and construction side of designing and building a structure that would have earth for a roof. As the design evolved, it became an exercise of reasoning and common logic to solve some of the unusual problems, since typical technology and building practices for residences would not translate to earth sheltered housing.

Site Specifics.

The house is located in southwest Nebraska, fifteen miles north of the town of Stratton. The land is rich, dark farm soil and is pool-table flat: good for cropland but making a home in a hillside impossible. It was built on the owners' farm, in proximity to existing farm buildings. There are few natural barriers to the weather on this site and the north side of the house is exposed to the brunt of the winter winds but the south side is opened to the sun and the farm.

Environmental Considerations.

Weather is a prime factor: the winters are long and cold, winds from the northwest herald the coming of "Blue Norther's" – blizzards that last for days and winds that last longer, windchill indexes in the minus forties, and snowdrifts that immobilize the countryside. In early spring, snows intermix with rains, and extreme freeze-thaw cycles result. Heavy spring rains turn the soil into the consistency and color of chocolate pudding, and create lakes and canals where fields and roads were once rumored to be. Summer winds can blow incessantly for days and the farm ground with it, resulting in indiscriminate sandblasting on a county wide scale and creating a dust problem that is the stuff legends are made of in this area. Sudden summer storms and tornados are commonplace, hailstorms are accompanied by intense and destructive lightning, lending mortal justification to an original plains underground structure: the storm cellar.

The sun can be equally harsh and unforgiving, but in a more leisurely time frame. July 'harvest weather' with days over a hundred degrees are usual, causing materials to weather and deteriorate rapidly, making building upkeep and repair a constant chore.

In contrast to this are days of perfect weather, (even, as it is rumored, perfect seasons), revitalizing the determination of the people who live in this area, and making this land some of the most productive in the grain belt.

Lifestyle factors.

Dennis and Janet Egle are old friends; Dennis and I graduated from high school together, and have a common bond of understanding the area and the needs of a farm residence. The main requirement was that this was to be a "working farmhouse" which inferred a different approach to residental design than conventional housing. A farmhouse provides a family home, shelter, comfort, retreat and privacy; but it is also a business office, first aid station, a cooling off or warming up area; and during neighborhood work exchanges, it is a dining establishment, meeting hall and entertainment center.

With a son and a daughter, they needed a 3 bedroom, 2 bath house, with a family room, lots of storage and a one car garage. It was to provide a maximum of solar heat within the earth sheltered design, and of course the overriding consideration was that it was to be inexpensive to build. The result is a living space of 2100 sq. ft. and a garage/storage area of another 420 sq. ft.

Design Logic.

In this rural area, locally available materials are not technologically advanced nor the labor force knowledgeable about sophisticated construction practices. Concrete planks and cast-in-place concrete vaults were discussed, but after cost analysis, transportation distance and the skilled labor required to erect these items, we came to the inevitable conclusion: all material and construction labor would have to be local and conventional in the context of earth sheltered housing.

The difficulties of a plan that does not permit openings on three sides are locating egress windows in bedrooms, daylighting and the consideration of cross ventilation. The combination of bedroom egress and solar heating resulted in the location of all inhabited rooms on the south side and maximizing window areas in those rooms. This stretched into a linear floor plan.

The plan is bent ten degrees at each wing, with the living room as the hub, breaking up the bowling-alley effect of a long plan, providing privacy for the bedroom wing and increasing the desirable solar orientation. With the bent plan, the bedrooms are located on the east wing, the better to heat those rooms with the setting winter

Janet Egle

View of house from the west, mostly earth berm. The line of vents and chimney shows the north line of the house.
November 1983

Janet Egle

Southeast Elevations
November 1983

sun; and the living areas are locate on the west angle (facing southeast) t catch the rising sun. Consequentl the spaces used at night are heated i the evening and the spaces used du ing the day are heated in th morning.

The floor plan in a linear house use the dreaded hallway, which is not th most efficient use of space. Thi design incorporates a wider than no mal hallway as an expandabl workspace and the occasional wor areas (office, sewing, vanities an linen) are located adjacent to the hal They do not need egress and as result these areas stretch along th north wall.

The design specifics of a 'workin farmhouse' had some unexpecte departures from the norm: the are designated "mud room" is a literal des cription in this case. The path into it i through the garage, where the firs layer of soil is shucked off, then int the mud room area, where secondar cleanup is available. This path als serves as an air lock. The family roo is also the break area, providing separation of 'work' area from that o the rest of the house.

Indoor-outdoor transitions wer minor elements, probably becaus when a person sits on a tractor all da in the July sun, the last recreation tha person wants to do is sit on a woode bench on a sun deck in the evenin The cool, quiet and upholstered com fort of a home is most welcome at th end of a work day.

Foundation.

Due to the drainage problem on th site, the foundation is a typical 8" thic concrete basement stemwall, bu placed on top of the existing groun level. This provided a finished floo level one foot above grade. An ground water is channeled away fro the house and the height differenc also provided a step up into the house a desirable feature requested by th owners to contradict the sense of a 'underground house'. After the she was constructed, dirt from a

excavated irrigation pond was hauled to the house to provide the necessary earth berming.

Roof Design.

The roof is a major problem on this type of house. It must be designed to withstand the weight of saturated earth, the dead weight of a system to support the earth, and it had to be inexpensive. There is one fact which is most disturbing: once the dirt goes on the roof, it is almost impossible to repair. Initial construction must be of the highest quality because uncovering a sod roof is costly and time consuming without doing more damage to the intergrity of that roof.

The problem of how to keep all that dirt up in the air forever and inexpensively, and building that structure with local labor required that the house be of consistent size and details. The idea was that once a module was constructed, all the rest of the house could be duplicated, therefore minimizing the chance for mistakes being made and maximizing the use of demensional materials. The house shell became a structure 20'-6" wide and 125' long. Inside this shell all the room partitions would be erected. The great advantage of this was a complete absence of interior bearing walls or posts that could be misplaced, penetrated or demolished during construction and finishing of the house interior. Previous construction experience had driven home the fact that an electrician with an eighteen inch auger, or a mechanical subcontractor with a worm-drive saw could cause more structural damage in an hour than a decade of weathering and deterioration. With all the weight overhead, it was in everyone's best interest that every bearing surface retain its full capacity without being riddled with electrical wires or duct work.

The structural calculations for the roof, considering the worst possible conditions (one foot of earth, fully saturated, with two feet of snow on top) came to 165 lbs. per sq. ft. of total bearing weight. Comparing the cost of steel beams with steel decking versus laminated wood beams and wood decking, the wood system won out, although the cost of wood was twice that of steel. The deciding factors were the abilities and availabilities of steel workers in that area and the appearance and simplicity of a roof system that resulted in a finished interior ceiling in its natural state. The material and labor costs of cosmetic finishing of the ceiling was considered, as some type of residential finish would be applied to a steel system to avoid the appearance of a family bombshelter.

The roof consists of 5⅛" x 15" architectural grade glue laminated beams, topped with 2 x 6 tongue and groove pine decking. All heavy construction is of consistent size, length, modularity and details. All beams were 4' on center, south bearing heights were 8'-6", north bearing heights were 7'-0". All bearing details were the same, even if hidden within the walls. One problem-filled exception was the garage door opening, which required two cross beams to carry the weight of two roof beams.

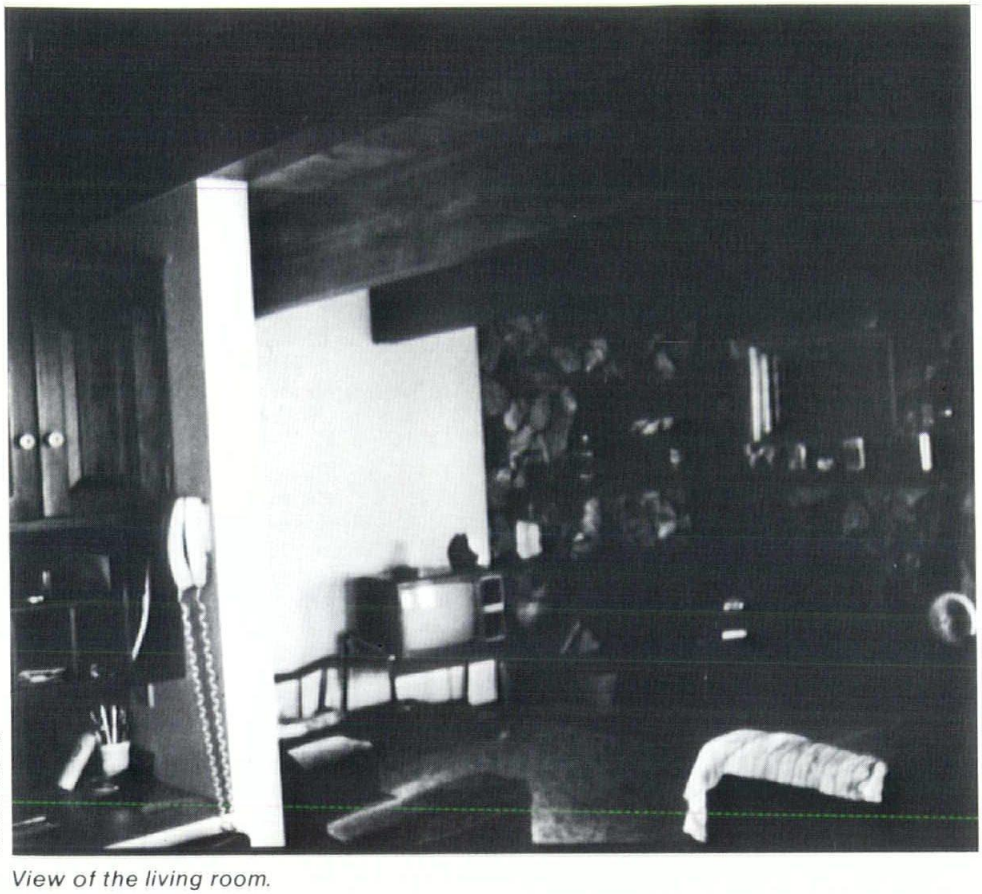
The roof was originally specified with a complete Sure-Seal .060 EPDM rubber membrane as the most important part of the roof waterproofing, but when the membrane was bid, the process had a fatal bureaucratic flaw: in order to be guaranteed, it had to be installed by a crew licensed by the manufacturer. The nearest crew was in Denver, and the cost of transporting the crew to the site, feeding, sheltering and pampering them became a staggering cost, about three times the cost of the membrane itself. And the cost of the membrane alone was enough to give one second thoughts! This echoed early considerations of only using local labor and conventional materials. Also rumors were circulating that rodents would burrow in the roof and chew holes through the membrane. Not at all a pleasant thought.

So, it was back to the beginning, to find a roof that was waterproof, strong, inexpensive, rot resistant and now rodent proof. The final roof construction became a conventional asphalt ply roof laid on rigid insulation. On top of this went 4" of lightweight concrete that was immediately sprayed with concrete sealer. On top of the concrete was stretched a 6 mil polyethylene sheet. The earth sheltering consisted of two inches of Bentonite clay and ten inches of local soil. This was later planted with Buffalo Grass, a native and hearty shortgrass.

Another problem was roof penetrations for the necessary vents. None of these penetrate the roof, rather they exit the north wall at the fascia or through the foundation. The smaller vents exit through the fascia board, elbow up to the surface, and are wrapped with roofing ply and plenty of asphalt sealer. Sewer vents were taken out near the base of the foundation and up above roof height. The stove flue and combustion air intake exit the north wall through the foundation and are encased in concrete to prevent rusting.

Solar Design and Heating.

The solar heating aspect of the house is of the simplest passive technology: a maximum of south glass combined with heavy drapes. The south wall of glass required consideration since each roof support would be carrying 7000 lbs. of weight at maximum design capacity. A special column was devised to meet those requirements; obviously, each column would be located under each roof beam to eliminate a cross beam. A 4 x 4 Select Structural West Coast Douglas Fir has a large enough cross section to meet the slenderness ratio requirements, but the axial load is marginal, making a built-up column necessary. The solution to glue and screw a 2 x 6 to each side of the 4 x 4 solved a lot of problems: it gave a safety factor to the loading, it provided the rough opening for the windows and it resulted in a butt joint for the



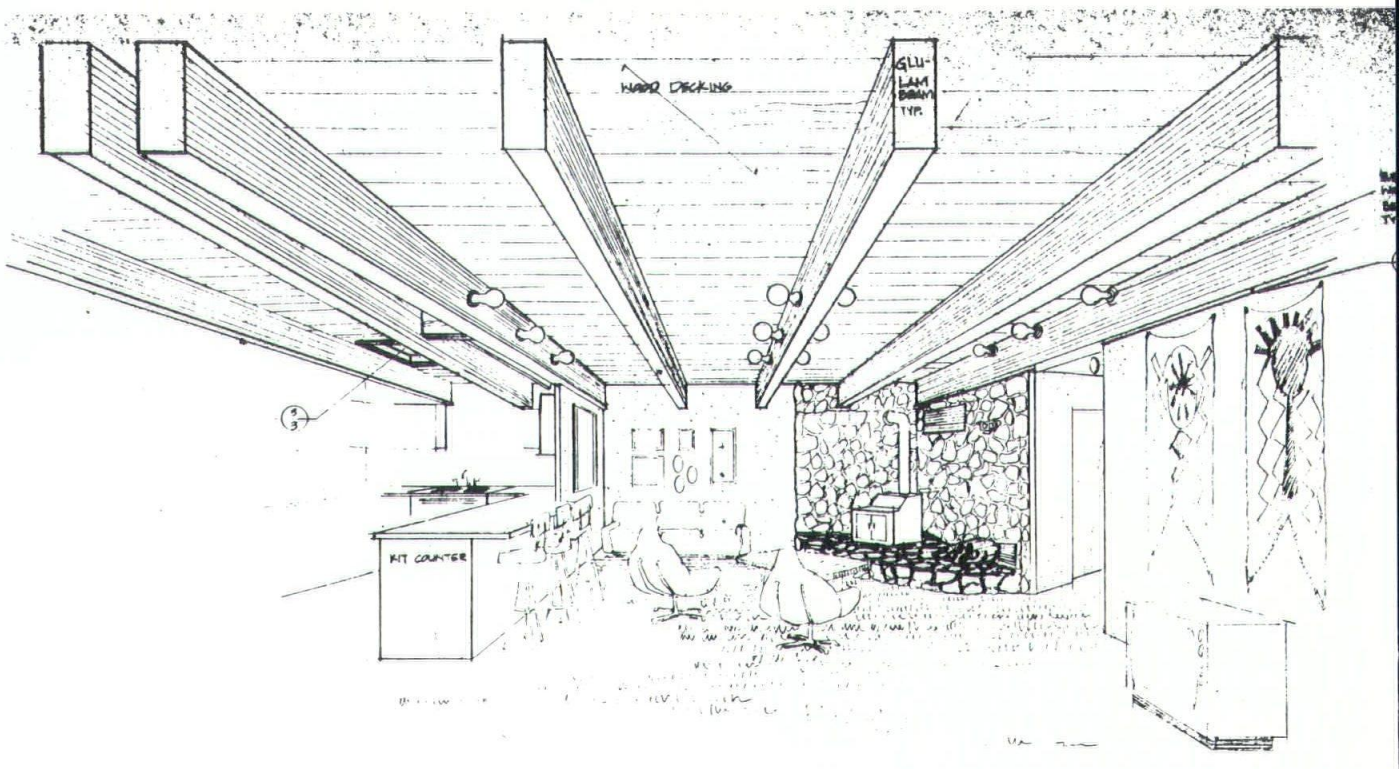
James Tepley

View of the living room.

interior and exterior finish. The soli north, east and west walls provide th necessary shear resistance agains racking, therefore the south side coul be treated as a glass curtain wall.

For solar glass and natural ventila tion, manufactured windows wer chosen, with fixed glass above an awnings below. The awning units wer the smallest available that met th legal egress requirements. These wir dow units were sized to fit between th columns with only minor trim to ma the shim gaps. The advantage is tha the window screens are low, small, an on the interior where they do no weather rapidly. The view and sola access is through the large uppe glass. There is something psy chologically confining about lookin through a window screen, which is minor point, but every design inco porates architectural prejudices.

The conventional heating of th house had a different direction. Th heat loss calculations resulted i 33,000 BTUH loss at zero degree ou side, 72 degree inside, temperature which is excellent for a house of thi size. The solar percent of efficienc was calculated at 45%, from this it wa apparent that not much conventiona heat would have to be added to mai



ain a comfortable house. At this time another special factor of earth sheltered housing had to be considered: When the house is closed, here is not much infiltration of fresh air because of the impermeability of he earth covering, and during construction special efforts were made to seal jambs, sills, thresholds and other hings that whistle on windy winter nights. Therefore no open flames were o be allowed within the house, (the wood stove being the exception). Essentially this was to be an all electric house. This consideration was due n part to the fact that natural gas is not available to the site, and propane is expensive in that area.

Looking at all options, we decided on a combination heating system that ncorporates solar heat, wood stove and electric furnaces connected to a ducted distribution system. The two electric furnaces which have the appearance of industrial-size toasters with attached fans are the conventional heat source and are zoned for he living and sleeping areas of the house. These feed into ducts which are cast into the concrete floor. The urnaces are located in a room opposite the wall where the wood stove is located, and connected by equipment is there for a comfortable electrically operated dampers. This provides for convenient switching of heat sources: if the wood stove is burning, the furnaces are switched off, but the fans are kept in operation through a thermostat, essentially making the wood stove the furnace, as heat is being distributed to all areas of the house through the ducts. This prevents hot rooms of the house from being near the stove, and the temperature throughout the house remains more consistent. When the wood stove is not being used, the electric furnaces 'come on line' through a conventional automatic thermostat.

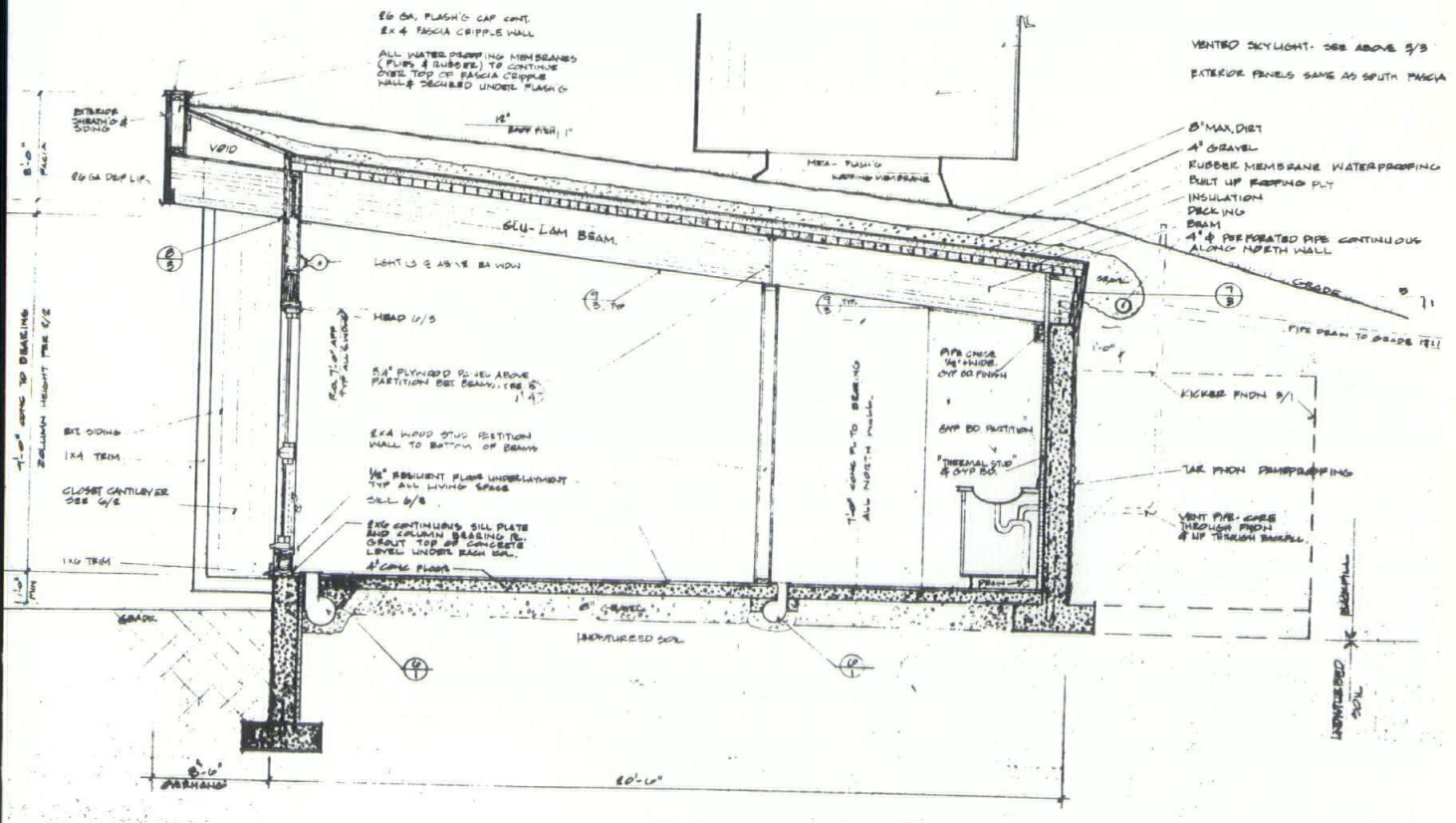
If the solar gain inside the house exceeds the comfort level, the fans can be switched on and the heat is circulated, resulting in thermal storage in the concrete slab. This works especially well because the solar hot spots are nearest the windows, and due to the solar gain time lag occuring late in the day, the heat has been exhausted from the duct area which was used for morning heating. By circulating the solar heat in the duct system, there is air movement throughout the house, which helps alleviate the stagnant hot spits, a problem in an entirely passive solar house. All the and consistent temperature in the house, depending on which heat source the owners desire to use.

The summer cooling also uses this system to extract cool air in the ducts and circulate it throughout the house. This system, along with the earth mass, a paddle fan and operable windows is the cooling system; there is no conventional air conditioning in the house.

The exterior of the house was kept simple. Most of it is either grass or glass. Fiberglass shingles were used on the parapet and textured plywood panels on areas which are not glass.

Construction.

Summer farm work and last minute changes made for a fall construction start. With great anticipation and expectation the time for ground breaking finally arrived. The subcontractor came out with his backhoe, studied the blueprints, decided that a house with dirt on the roof had to be below ground level and proceeded to dig the first trench as if it was to be a basement wall... subtle echos of the statement about the labor force in the area. Construction became a flurry of long distance phone calls, usually about changes that were suggested to decrease the cost, devise an easier way



Janet Egle

View of the house from the southeast.
November 1983

Janet Egle

View of the house from the south.
November 1983

to do a task or those dreade "unknowns" that seem to becom known at the most inopportune time Surprisingly, some anticipated cor struction problems were handled wit ease; the glue laminated beams, eac weighing 520 lbs. were placed on th walls and columns using the fron loader on Dennis' John Deere. Th operation left some sweeping Ar Deco tire marks on the concrete floo but they are covered up with tile an carpet now, preserved for som future archaeologist.

One load of roof decking arrived wit the tongue and groove joints not bein compatable with the previous load, s the entire load was trucked to the loca lumberyard and new grooves wer milled into the decking. A silent thank they were not concrete planks!

The electrical wiring had one draw back: because the floor was concret the roof system was exposed on th interior, all the wiring had to be char neled in the firring on the north wa and then through dividing partitions At times this resulted in a labyrinth wi ing route to meet electrical codes, an added some expense to the house.

Once the shell was built, the interio became conventional construction wood partition walls with drywa finish, tile and carpet on concrete, stone hearth and manufacture cabinets selected to fit. The ceilin decking and beams were cleaned an given a coat of combination stai and sealer.

By the time the house was complet enough for dirt to be moved an bermed at the house (a total of 30 cubic yards were moved), it wa January and the soil had been froze for 2 months. The frozen chunks whic were first graded from the pond wer placed at the base of the north wa This resulted in two problems tha came later: the frozen fill next to th north wall made the house cold tha first spring and when the dirt chunk finally did thaw, the ground slumped a the north house edge causing a char nel in the berm and creating a sinkin

chimney problem. The dirt was spread over the roof using a garden tractor with a front loader. This was a very efficient way to spread a lot of dirt and the extra three-quarters ton of weight driven over the roof had no adverse effects. The beams are designed to have a deflection at midspan of 1", (D= 1/240). Even under maximum weather loading the deflection of a beam is only ⅛", but this is enough to cause drywall to crack. No provisions were made in the partition top plates for this deflection and hairline cracks appear at stress points in the drywall. This problem could have been eliminated by designing slip plates at all wall/beam junctions.

For through-house ventilation a combination skylight, solar chimney, and whole house vent with automatic closer was designed. This was to provide natural lighting in the kitchen and hall areas, and in the event of a sudden dust storm it would be self-closing, eliminating a lot of dust in the house. These vented skylights were never built and in reflection, I am glad they weren't, as I am convinced they would have leaked both water and dust and would have become an upkeep problem.

The house ventilation became two switched fans on the north wall that were vented above grade. They work, but electrical energy is being used to vent a structure that could be vented naturally, and that seems contrary to solar design.

20-20 Hindsight.

The north fascia perforated drain pipe was never installed, as it wasn't deemed necessary at the time of framing. With the amount of roof that drains to the north fascia, a 4" rain (not uncommon in this area) equates to the equivalent of 4¾ gallons of water *per linear inch* trickeling over the critical north fascia. This caused one leakage problem at the joint of the concrete foundation and the combustion air intake during such a downpour. If this excess water is captured and channeled away, 95% of all leakage problems could be eliminated.

The wood stove has never worked to the owners' satisfaction. It doesn't burn well unless a hot fire is stoked, or a window is opened, they report. If the Jenn-Air range is operating at the same time the wood stove is burning, a backdraft is created through the stack and the house gets smokey. The reason for this is the lack of natural air infiltration into the house interior as would be expected in a conventional house, although a combustion air vent is provided to the wood stove. I have two other reasons for this: The double 90 degree elbows on the stove flue and the length of the combustion air pipe (about 11 feet long) inhibits the free flow of air to and from the firebox.

They are planning to substitute a fireplace for the stove which will provide a more positive draft through the firebox and also eliminate the problem of the wood stove being too efficient for the house. If the stove is started on a chilly morning, by the time it burns thoroughly, the house is too hot. A fireplace will be less efficient than their present wood stove, but it will be more ideally suited to the heat loss of the house. Also the combustion air pipe can be attached to the firebox to create a separate loop for burning wood. Their present wood stove does not have the separate provision to the firebox for the combustion air pipe to be directly attached to it, resulting in the air being transferred through the living room space before it is drawn into the stove.

The final cost of the house (in 1981 pricing) came to $40.00 a square foot, including the garage.

Some other observations by the owner after living in the house for two years.

- There are too many air vents in the house. The house does not have high humidity and the resulting mustiness, therefore the vents are seldom used.
- The windows and the cantilevered closets leak dust in windstorms.
- During blizzards snow eddies are created over the parapet resulting in an undesirable snowdrift on the south side.
- Spring and fall temperatures fluxuations, along with the declining angle of the sun, sometimes creates an overheating problem, easily solved by venting the house. But if the owners are away from home, they have to second guess the day's weather, an especially iffy proposition in this area.
- In the summer, the house is vented at night, and then closed up about 9 o'clock in the morning until the cool of the evening again. In a series of days over 100 degrees, the hottest interior temperature recorded was 85 degrees.
- The 4' eave overhang on the south side is ideal for sun control; they would not want any less.
- No heat has to be added to the house until the outside temperature is well below freezing and the day is overcast.
- The floor is comfortable in winter. There was some anticipation that carpet over concrete may create a cold floor, but that did not materialize.
- The house carries interior noise more than a conventional house. In contrast, it eliminates a lot of usual exterior noise.
- The house is too long; the privacy is welcome, but sometimes it's a far jaunt to the other end.
- The grassed roof is self healing, nature does the upkeep. Although watering the roof is a bit unconventional.
- The daylighting of the interior and the wood ceilings, combined with conventional interior detailing diminishes the fact that they are really "living under ground".

The roof has never leaked . . . . . (Amen.)

A 1974 graduate of the College of Architecture, James Teply is an architect in private practice in Grand Junction, Colorado.

Home Economics Competencies Utilized by Architectural Firms

by
Kristi Schlegel, M.S.
Department of Education and Family Resources

Abstract. *Architectural firms, located in the North Central region, were surveyed during the Spring of 1983 to discover the importance of the completion of tasks that identify user needs, preferences, and satisfaction. A second objective was to discover if architects perceive home economists as professionals who can provide such information.*

The provision of housing to meet the expanse of human needs is important to individuals, families, and society. To prevent premature obsolescence and obtain fulfillment of user requirements, an awareness and understanding of these needs aids in the discovery of design solutions to housing problems, and results in the construction of more suitable housing units.

Home economists possess expertise which centers on the provision of housing to meet individual and family needs. Interaction between home economists and architects would likely result in the design of housing which would combine aesthetic and workable design with design that facilitates the fulfillment of human needs.

In order to better understand the importance of the provision or completion of tasks identifying consumer needs and preferences to architectural firms and to discover if architectural firms perceive home economists as experts in providing such information, a questionnaire was mailed, during the Spring of 1983, to a representative sample of architects in the North Central region of the United States. To qualify for the sample, the architectural firm must have indicated within the *AIA Profile: The Official Directory of Architectural Firms, 1980* that 35 percent or more of its gross income was a result of housing projects. A total of 119 questionnaires were completed and returned for a 66 percent response rate of eligible respondents.

Architects were asked to indicate to what extent the provision or completion of the following tasks were important to the operation of their firm: 1) identifying housing needs and preferences of families; 2) identifying areas of occupant satisfaction/dissatisfaction with floor plan design (storage, room size, and arrangement, traffic patterns; 3) identifying areas of occupant satisfaction/dissatisfaction with provision and design of outside space (including acoustical and visual privacy); 4) determining needs for physically disabled persons; 5) designing housing complexes which accommodate families in different stages of the life cycle; 6) surveying neighborhoods to determine reactions to proposed housing projects which accommodate different socioeconomic classes; 7) conducting need analysis studies to determine appropriate housing structure for the elderly; 8) evaluating social and/or economic preservation displacement factors in the neighborhood; and 9) locating suitable building sites for energy efficient housing.

Results of the survey are presented in the Exhibit.

About one-half of the architects indicated that the completion of the following tasks were of moderate to large importance to their firm: identifying areas of occupant satisfaction/dissatisfaction with floor plan design (storage, room size and arrangement, traffic patterns) (51%) and identifying housing needs and preferences of individuals and families (48%). Slightly less than one-half (44%) indicated that identifying areas of occupant satisfaction/dissatisfaction with provision and design of outside space (including acoustical and visual privacy) was of moderate to large importance to the operation of their firm. About one-third of the architects indicated that determining needs for physically disabled persons (38%); designing housing complexes which accommodate families in different stages of the life cycle (35%) and conducting need analysis studies to determine appropriate housing structures for the elderly (31%) were tasks whose completion was of moderate to large importance to their firm. Slightly over one-fourth of the firms (26%) noted that locating suitable building sites for alternative energy efficient housing was of moderate to large importance to their firm. Few architects reported that surveying neighborhoods to determine reactions to proposed housing projects which accommodate differing socioeconomic classes (13%) or evaluating social and/or economic displacement factors in the neighborhood (5%) were of moderate to large importance to their firm.

Summarizing the findings presented in the exhibit, it appears that the categories of tasks important to the largest proportion of architectural firms are the identification of housing preferences and evaluation of use

atisfaction. The category of tasks considered important by somewhat ewer architectural firms is determining the needs of special groups as the isabled, elderly, those in different tages of the life cycle. Locating sites ppropriate for energy efficient housng is important to somewhat fewer architectural firms. Addressing needs and concerns of differing socioeconomic classes was important to only a small proportion of architectural irms.

Of the architects who indicated the provision or completion of each of the above tasks was important to the peration of their firm, from eight to 20% indicated they relied on expertise outside their firm to a moderate to arge extent. Occupational positions mentioned by ten or more architects were engineers (29), owner/developer 17), marketing consultants (18), other architects (16), realtors (13), professional staff of city, state, and ederal agencies (13), the client (10).

From 81 to 89% of the architectural irms rely on expertise within their firm or completion or provision of the asks. In almost all cases, the architect was listed as the person within the firm who performed these tasks. Home economics were not mentioned as a source of expertise either within the irm or outside the firm.

DISCUSSION

The results of this study have three important implications. First, architects do not identify home economists as professionals with competencies hey might utilize. Apparent difficulties exist in communication between ome economists and architects – difficulties which can affect the production of suitable housing units for ndividuals and families. Efforts to communicate are needed, both on the university level where students are exposed to the bodies of knowledge hat make it possible to create desirable built environments, and on the professional level, where adjustments n practice may be needed to meet the practicality of actual development and construction.

Second, the results which indicate a ack of importance of the performance f user-oriented tasks to many rchitectural firms, raise a number of uestions that need to be addressed y further research. The sample for his study included architectural firms which had indicated in the 1980 AIA Profile that at least 35 percent of their gross income was a result of housing projects. Perhaps, in 1983, when this survey was conducted, some of these firms were no longer involved in housing projects which would explain lack of importance ofhousing related tasks. Also, the type of housing projects undertaken could explain why some tasks were important and others were not. Recognizing these caveats in interpreting the results, the findings still suggest that a better understanding of factors which influence user-related decisions within architectural firms is needed. Is competition among architectural firms for contracts such that these user-oriented tasks are not among the pertinent criteria and therefore are discounted? Is there a lack of knowledge of cost effective methods that can be used to determine user-oriented needs? Do architects believe that the responsibility for the completion of these tasks belongs to someone else?

Third, if these user-oriented tasks are not being performed by many architectural firms, what impact does this have on consumers of housing? Are housing consumers being required to make excessive adjustments to accommodate their lives to the physical environments available? Are housing consumers experiencing psychological and social stress because of the physical features of the buildings and the social environment in which the buildings are located?

The design and construction of housing environments which enhance the lives of those who occupy them are crucial to the welfare of individuals, families and society. Therefore, it is important to understand the factors which presently determine the nature of that environment; to identify problems which prevent the creation of user-oriented housing; and to discover possibilities that can facilitate a suitable fit between people and their built environment.

Reference

AIA Profile: The Official Directory of Architectural Firms. (Ed.) Schirmer, H.W., Philadelphia: Archimedia, Inc., 1980.

EXHIBIT

To what extent is the completion or provision of each of the following important to the operation of your firm?	To What Extent?				
	None	Some	Moderate	Large	(Combined Moderate Large)
	Percent[a]				
1) Identifying areas of occupant satisfaction/dissatisfaction with floor plan design (storge, room size and arrangement, traffic patterns).	38	11	17	34	(51)
2) Identifying housing needs and preferences of individuals and families.	38	14	19	29	(48)
3) Identifying areas of occupant satisfaction/dissatisfaction with provision and design of outside space (including acoustical and visual privacy).	38	18	21	23	(44)
4) Determining needs for physically disabled persons.	36	26	20	18	(38)
5) Designing housing complexes which accommodate families in different stages of the life cycle.	42	23	18	17	(35)
6) Conducting need analysis studies to determine appropriate housing structures for the elderly.	50	19	18	13	(31)
7) Locating suitable building sites for alternative energy efficient housing.	36	38	18	8	(26)
8) Surveying neighborhoods to determine reactions to proposed housing projects which accommodate differing socio-economic classes.	74	13	10	3	(13)
9) Evaluating social and/or economic displacement factors in the neighborhood.	75	20	4	1	(5)

[a]Number of respondents range from 118 to 119.

The Nebraska Community Improvement Progra
1983 Awards

by John Gulick
Associate Professor of
Community Development
Community Resource and
Research Center
UN-L College of Architecture

The 20th anniversary of the Nebraska Community Improvement Program was celebrated on Friday, November 4th at the annual Recognition Day Banquet. The program is co-administered by the UNL Community Resource and Research Center and the Community Affairs division of the Nebraska Department of Economic Development. The program recognizes the community improvement efforts of communities across the state. For the past ten years, neighborhood organizations in Lincoln and Omaha have also been recognized for their improvement efforts. During the past twenty years many other states have used the NCIP as a model for designing their own community improvement programs.

One of the highlights of the day was the presentation of a book documenting the twenty-year history of the program. This book was written by Dr. Otto G. Hoiberg, one of the founding fathers of the NCIP (as well as the founder of the community development program at the University of Nebraska which later became the Community Resource and Research Center).

Over 250 community leaders participated in the morning and afternoon workshops held at the UNL East Campus Union. Workshop topics included volunteer recruitment, community futures, crime prevention, community education, community forestry, as well as idea-sharing sessions for neighborhood leaders and leaders from both small and large communities. A tour of projects completed by Lincoln neighborhood organizations was another option during the afternoon.

The Recognition Banquet held at Pershing Auditorium attracted over 800 people from across the state as well as a state-wide audience viewing the live broadcast of the award ceremonies on Nebraska Educational Television. Governor Kerrey made the awards presentations. Special award winners included; Community Development Process – Geneva; Business District Improvement – Cozad; Economic Development – Hayes Center; Energy and Environment – Gothenberg; Farm and Ranch Development – Gothenberg; Health and Safety – Cozad; Human Services – Lexington; Public Facilities and Government Services – Scottsbluff/Gering; and Recreation, Arts and Humanities – Gothenberg.

Receiving recognition for their overall community improvement efforts in their population class were; Farnam (up to 350 population), McCool Junction (350-700 population), Exeter (700-1,500 population), Cozad (1,500-5,000 population) and Seward (5,000-30,000 population). Ten Lincoln and eleven Omaha neighborhood organizations were also recognized for their fine improvement efforts during the past year.

The Otto G. Hoiberg Award, in recognition of outstanding community improvement in the area of crime prevention, was awarded to Strang, McCool Junction, North Bend, Gothenberg, and Scottsbluff/Gering. Recognition was given to Staplehurst, Scribner, Bayard and Seward for their efforts in assisting other communities with their improvement plans.

COMMUNITY AWARDS

CLASS I (up to 350 population)
- First Place ..... Farnam
- Second Place ..... Mason City
- Third Place ..... Strang
- Honorable Mentions .... Dixon, Alexandria, Gresham

CLASS II (350-700 population)
- First Place ..... McCool Junction
- Second Place ..... Utica
- Third Place ..... Coleridge
- Honorable Mentions ..... Brady, Winside, Palmyra

CLASS III (700-1,500 population)
- First Place ..... Exeter
- Second Place ..... North Bend
- Third Place ..... Juniata
- Honorable Mentions ..... Wakefield, Fairmont, Hooper

CLASS IV (1,500-5,000 population)
- First Place ..... Coza
- Second Place ..... Genev
- Third Place ..... Syracus
- Honorable Mentions ..... Gothenburg Pierce, Wymor

CLASS V (5,000-30,000 population)
- First Place ..... Sewar
- Second Place ..... North Platt
- Third Place ..... South Sioux Cit
- Honorable Mentions ... Scottsbluff/Gerin Plattsmouth, Lexingto

SPECIAL AWARDS

COMMUNITY DEVELOPMENT PROCESS
- Winner ..... Genev
- Honorable Mentions ..... Exeter, Farnar Stran

BUSINESS DISTRICT IMPROVEMENT
- Winner ..... Coza
- Honorable Mentions ..... McCool Junctio Plattsmouth Scottsbluff/Gerin

ECONOMIC DEVELOPMENT
- Winner ..... Hayes Cent
- Honorable Mentions ... Aurora, Mason Cit Scottsbluff/Gerin

ENERGY AND ENVIRONMENT
- Winner ..... Gothenbu
- Honorable Mentions ..... Aurora, Farnar Wa

FARM AND RANCH DEVELOPMENT
- Winner ..... Gothenbu
- Honorable Mentions ..... Cozad, Haye Center, West Poi

HEALTH AND SAFETY
- Winner ..... Coza
- Honorable Mentions ..... Farnam, Haye Center, Mason C

HUMAN SERVICES
- Winner ..... Lexingt
- Honorable Mentions ..... Farnam, Sou Sioux City, Wakefie

PUBLIC FACILITIES AND GOVERNMENT SERVICES
- Winner ..... Scottsbluff/Geri
- Honorable Mentions ..... Alexandr Geneva, Gothenbu

RECREATION, ARTS, AND THE HUMANITIES
- Winner ..... Gothenbu
- Honorable Mentions ..... Cozad, Farna Scottsbluff/Geri

TWENTY YEAR RECOGNITION AWARDS:
The following communities received spec

awards in recognition of their involvement with the Nebraska Community Improvement Program since its beginning in 1963:

Auburn	Ord
Clarkson	Pierce
Fairbury	Ralston
North Platte	South Sioux City

Special 20-Year Award to Otto Hoiberg

ALL NEBRASKA COMMUNITY AWARDS

All Nebraska Community Awards are given to those towns that provide a high level of municipal services to their citizens.

Aurora	McCook
Gordon	Minden
Gothenberg	Plattsmouth
Hallam	

NEIGHBORHOOD AWARDS

Awards were presented to the following neighborhood organizations in recognition of their area improvement efforts:

Omaha:	Lincoln:
Belvedere Point	Antelope Park
Bemis Park	Clinton
Conestoga	Hartley
Dahlman	Near South
Deer Park	North Bottoms
E.R. Danner	Malone
Ford Birthsite	South Salt Creek
Keystone	University Place
Pacific-Leavenworth	West "A"
Prospect Hill	Woods Park
Spring Lake	

OTTO G. HOIBERG AWARDS

Five communities, one from each population class, received the Otto G. Hoiberg Award in recognition of outstanding community improvement in the area of crime prevention. The winners are:

Class I	Strang
Class II	McCool Junction
Class III	North Bend
Class IV	Gothenburg
Class V	Scottsbluff/Gering

GOOD NEIGHBOR AWARDS

Staplehurst (nominated by Seward)
Scribner (nominated by Hooper)
Bayard (nominated by Morrill)
Seward (nominated by Utica)

Book review

Earth-Sheltered Habitat. History, Architecture and Urban Design Gideon Golany. Van Nostrand Reinhold, 1983. Hardcover $21.95 paper $14.95.

Earth-sheltered development appears in some contexts to be a truly "adaptive" solution to influences of climate, geology, topography and soils, thus appealing to those with a streak of environmental determinism. Earth-sheltering (or sub-surface or undergound development) is promoted for its savings in heating and cooling costs and at a larger scale for its potentially efficient concentrated pattern of land development. A recent Master's thesis in Community and Regional Planning by Daniel Nelson illustrates some of the large scale planning concerns and notes the history of earth-sheltering in Nebraska (and elsewhere) from the Pawnee to sod houses and dugouts to old basement houses, of which a few remain in Lincoln. Yet most contemporary development is in the form of individual residences outside of communities. Regional exceptions are large underground storage areas in Kansas City and defense establishments.

Earth-Sheltered Habitat is the most recent of several publications which examine this sort of development at a community scale. Prior efforts include *Earth Sheltered Community Design* by the Underground Space Center at the University of Minnesota (1981), a 1982 issue of *Underground Space* on "urban subsurface planning", and Gunnar Birkerts' *Subterranean Urban Systems* (1974). A professor of architecture at Penn State, Golany has written on arid zone settlement design, new towns in Israel and elsewhere and its generally concerned about design and development in "stressed environments".

The book is essentially a presentation of design concepts as they relate to environmental factors. Illustrative data are provided on soil and temperature factors among others. Golany illustrates the global history of earth-sheltering and the present level of activity. He extends a presentation of dwelling unit prototypes into an urban design framework. Design schemes fitted to topgraphy and presumably to subsurface conditions illustrate the conceptual organization of "urban cells" and the relationships between individual units. The spatial and cost requirements of "compact" earth-sheltered community form vs. "conventional development patterns" show gains in public open space and reductions in service and utility requirements. Design considerations related to privacy and the social impacts of increased density are briefly addressed, as are construction and maintenance cost issues.

Neither a manual, nor a theoretical tract, this book is a well documented exploration (with a significant bibliography) which attempts to persuade, or induce the reader to consider an expansive perspective toward design and planning in appropriate situations. The other works mentioned above cover some of the same ground, each with a different emphasis: the Minnesota volume stresses site analysis, overall conservation, and design standards; Birkerts describes "conduits"–multi-purpose subsurface corridors in a metropolitan context, and the *Underground Space* issue focuses on geological study of potential earth shelter access and related work in Minneapolis. None of these writings appears to fully address all aspects of a community even as community design ideas are presented. The dynamics of community growth and change, the diverse requirements of numerous groups and activities and their integration into physical spaces all need a great deal of attention.

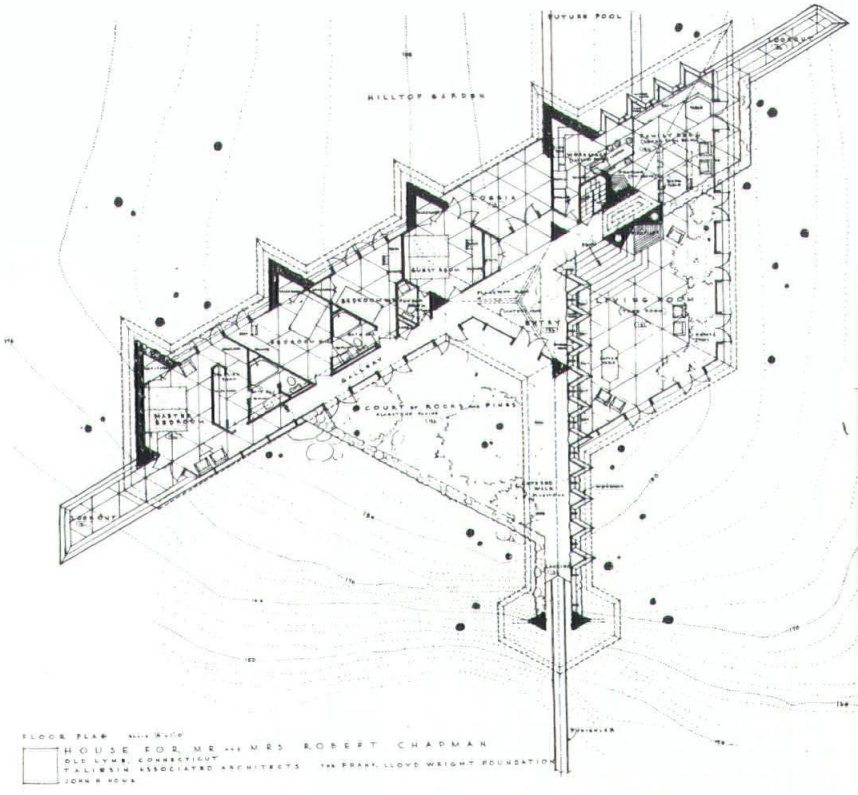
Accepting the experimental nature of some of this work and the many additional considerations necessary for this approach to be a large scale element of community land development, the ideas in *Earth-Sheltered Habitat* and related writings are worth taking seriously for at least two reasons beyond their claims of efficiency. First, the deep soils, climate extremes and topography make areas of Nebraska suitable for considering this approach. Second, regardless of whether one wants to design, build, plan, live or work in an earth-sheltered environment, the exercise of thinking through the potentials and drawbacks of this "solution" is eye-opening and educational as to how development can or should fit the natural environment.

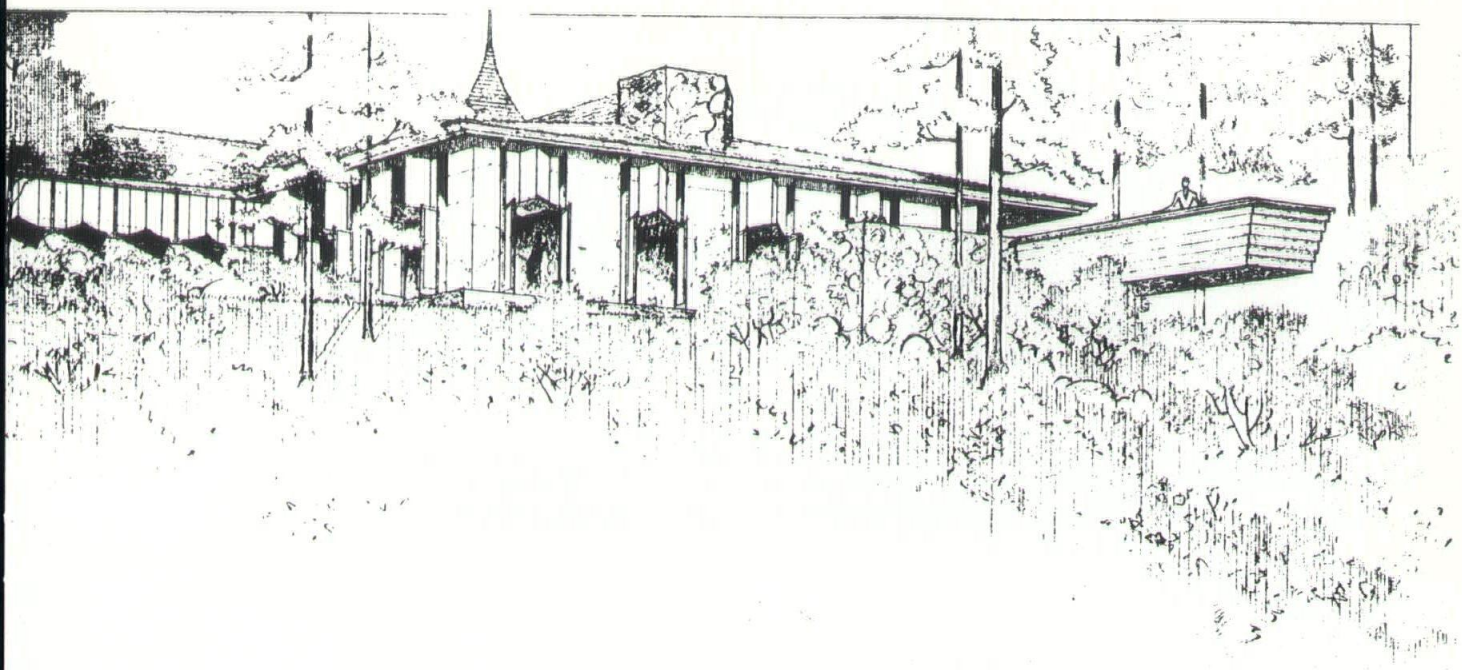
Charles Y. Deknatel
Associate Professor of Community and Regional Planning
College of Architecture
University of Nebraska-Lincoln

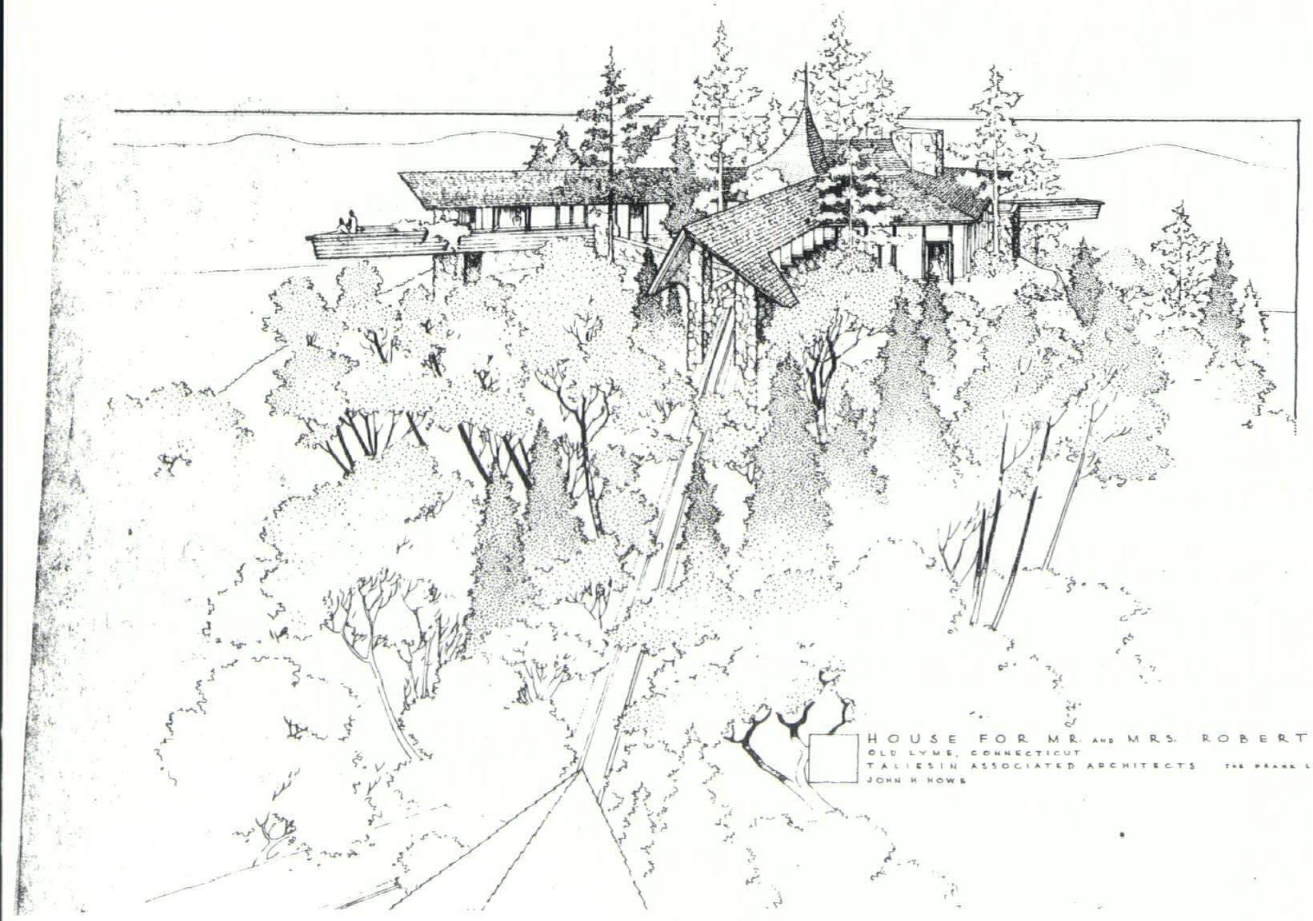
Design graphics/ graphic design

The drawings of John H. Howe

The drawings on these pages were submitted by Geoffrey Childs, UN-L class of '78, who is currently working with John Howe. Mr. Howe is a charter member of Frank Lloyd Wright's Taliesen Society.

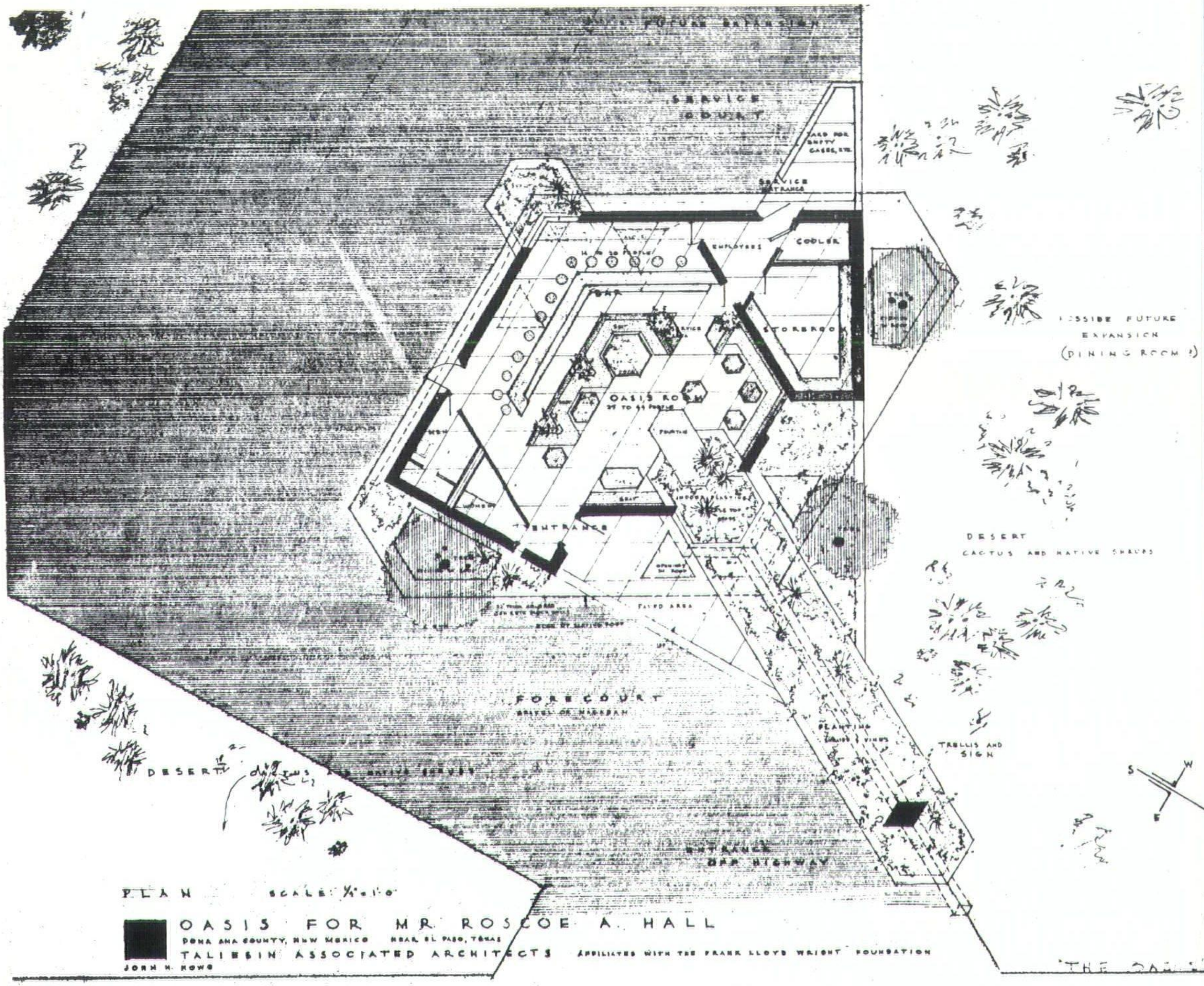


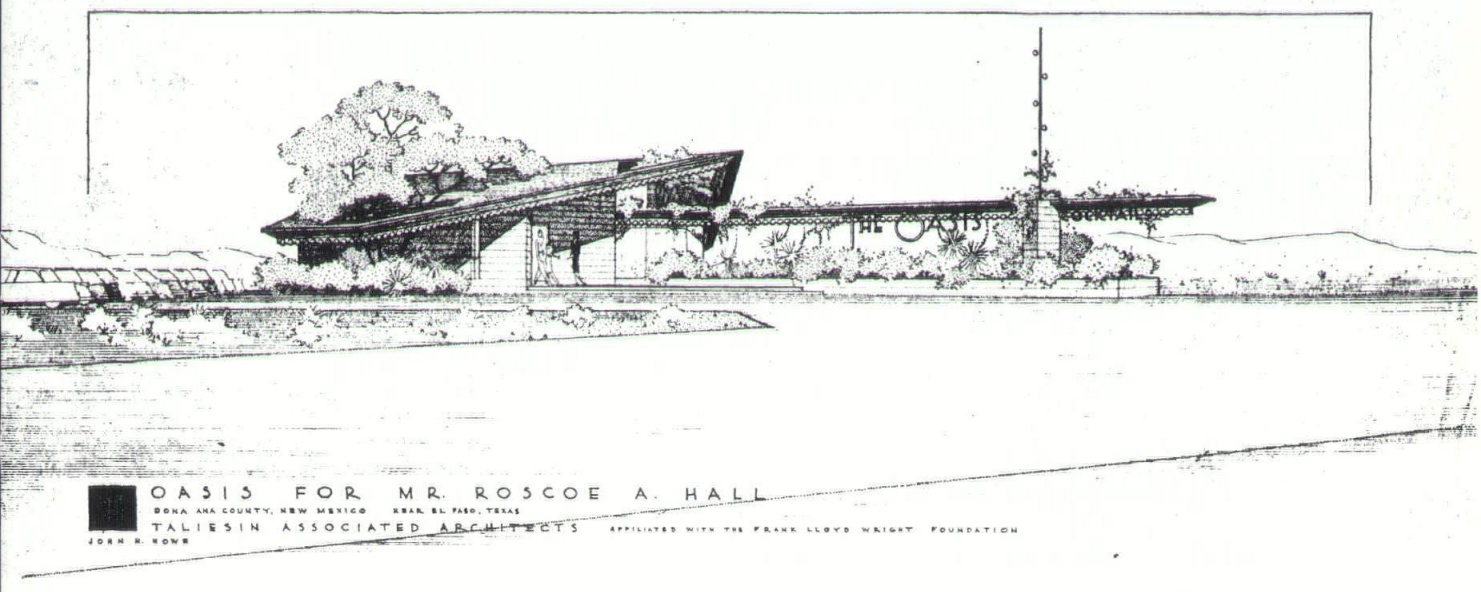




HOUSE FOR MR. AND MRS. ROBERT CHAPMAN
OLD LYME, CONNECTICUT
TALIESIN ASSOCIATED ARCHITECTS
JOHN H. HOWE

THE FRANK LLOYD WRIGHT FOUNDATION


FUTURE EXPANSION
SERVICE COURT
SERVICE ENTRANCE
COOLER
EMPLOYEES
STOREROOM
OASIS ROOM
ENTRANCE
PAVED AREA
POSSIBLE FUTURE EXPANSION (DINING ROOM ?)
DESERT
CACTUS AND NATIVE SHRUBS
FORECOURT
TRELLIS AND SIGN
ENTRANCE OFF HIGHWAY
S
W
E
PLAN
OASIS FOR MR ROSCOE A. HALL
DONA ANA COUNTY, NEW MEXICO
NEAR EL PASO, TEXAS
TALIESIN ASSOCIATED ARCHITECTS
AFFILIATED WITH THE FRANK LLOYD WRIGHT FOUNDATION
JOHN H. HOWE

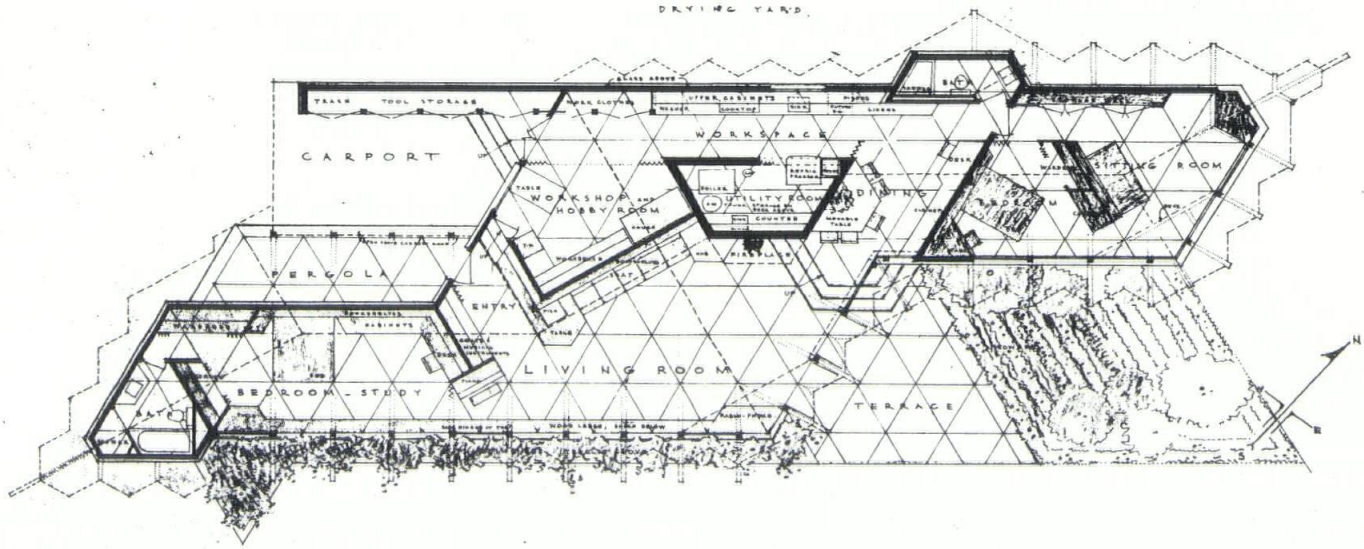


OASIS FOR MR. ROSCOE A. HALL

DONA ANA COUNTY, NEW MEXICO NEAR EL PASO, TEXAS

TALIESIN ASSOCIATED ARCHITECTS AFFILIATED WITH THE FRANK LLOYD WRIGHT FOUNDATION

JOHN H. ROWE



8 POURED CONCRETE HEATED FLOOR.
CONCRETE BLOCK WALLS TO SILL LEVEL.
CEDAR SIDING ON WOOD FRAMING ABOVE SILL LEVEL.
ROOF OF CANVAS OVER LAPPED ROOF DECKING.
FIXED PANELS OF DOUBLE GLAZING THROUGHOUT
EXCEPT WHERE SASH ARE SHOWN.
ROOF FRAMING: BATTENED 4"x8" BEAMS, 5'-4" O.C.

TRIANGULAR UNITS 5'-4" EACH SIDE.

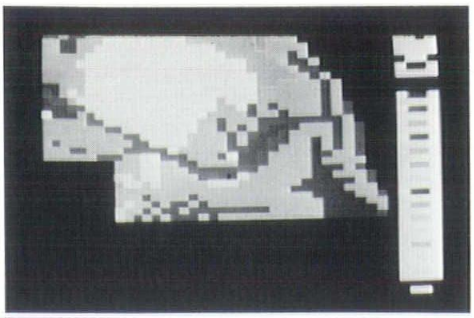
SCALE: 1/4" = 1'-0"

HOUSE FOR MR. AND MRS. BYRON E. HARRELL

VERMILLION, SOUTH DAKOTA

THE TALIESIN ASSOCIATED ARCHITECTS
JOHN H. ROWE

THE FRANK LLOYD WRIGHT FOUNDATION



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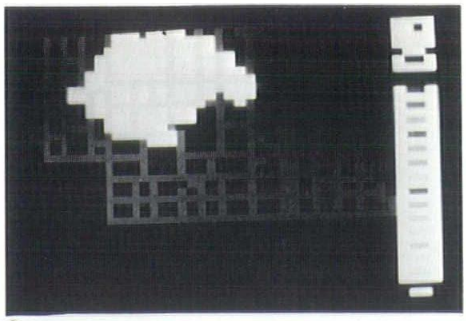

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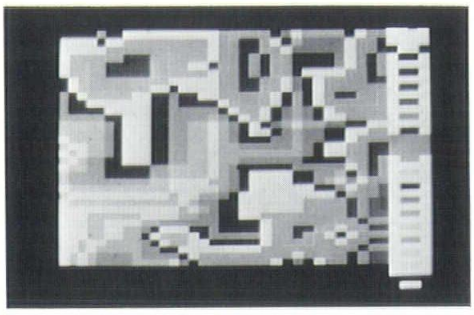

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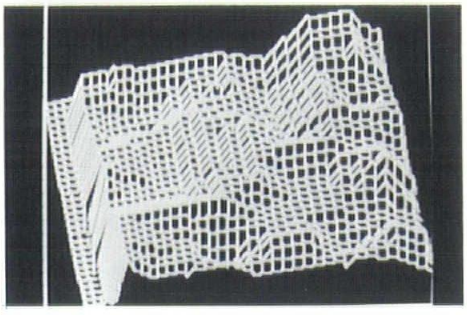


4

Graphic representations of physiographic and socio-economic attributes of regions. Slides 1-3 are rendered in low resolution graphics. Slide 4 was rendered in high resolution for greater visual clarity.

Spacembly/Low Resolution Graphics

Uses of the Computer in Architecture

By N. Brito Mutunayagam

Designers are constantly representing layouts of interiors, rooms and buildings in two dimensional images, while visualizing them in three dimensions. The SPACE TABLET* enables designers, equipped with a microcomputer, such as an APPLE II PLUS, or an IBM PC, to visualize, and work with three dimensional images of objects, simultaneously. SPACEMBLY is a process developed by Professor N. Brito Mutunayagam, and his students to harness solids modeling and three dimensional drafting principles and bring them to bear upon the process of layout planning and architectural design.

Any object or appliance is first digitized in three dimensions, using the SPACE TABLET. A comprehensive library (data base) of such objects and appliances is then stored on disk. At the time of layout design, the images of the desired objects may be retrieved in the sequence in which they are to be used. The scaling, rotation, moving and unifying algorithms of SPACE GRAPHICS* are then applied to each of the images, until the desired combination of objects has been achieved. The combinations of objects are, in turn, arranged to create an interior layout. Several alternative layouts may be attempted, using this principle, to furnish the designer with a range of alternative choices of interiors for final selection.

At the next hierarchical level, room layout alternatives may also be formulated using the same principle. At the highest level in the hierarchy, layouts of buildings may be formulated in plan and elevations. Aerial views of alternatives provide the designer with three-dimensional visual clarity of the final design product.

The advantage of using SPACEMBLY is that the designer does not require to resort to his/her imagination to interpret two-dimensional images of three-dimensional objects. Interiors, room layouts and building layouts evolve through a sequential process of three-dimensional image retrieval and transformation. The "Video Gaming" technique of layout generation renders the process interesting and challenging, and virtually eliminates the need for cumbersome and time consuming drafting and sketching. The final outcome of this process is an array of flexible alternatives from which a final selection for further elaboration and detailing may be made.

LOW RESOLUTION GRAPHICS

In most microcomputer graphics applications, *bit addressing*, to manipulate the "pixel" in the high resolution graphics mode, is preferred over *byte addressing* using the low resolution graphics mode. The low resolution "cell" however does possess some inherent advantages over the pixel, particularly in cartography applications. MAPLE, a Mapping and Site Analysis software package for Apple microcomputers, was developed under the direction of Professor N. Brito Mutunayagam, as a thesis project, by Ali Bahrami to harness the low resolution "cell" to perform a variety of simple and complex design and planning tasks, using cartography techniques.

The attributes of color and relative location, of the low resolution graphics "cell", on a matrix were used to graphically represent physiographic and socio-economic attributes of regions, at the Regional scale. The geographic information (maps), so derived, may be utilized for the identification and delineation of formal regions, using the principle of logical map overlays. The principle of geographic information mapping and map overlay may be extended for applications at the local scale as well, for selecting suitable sites possessing specific attributes.

The color, the numerical value corresponding to the color code, and the relative location of "cells" may also be used to represent and display contour information. Terrain modeling of the formation can, in turn, be generated, and rendered in the high resolution graphics mode, for greater visual clarity.

MAPLE is designed to utilize the contour map of a given terrain to identify those locations on the terrain that are visible from a designated viewing station. If the contour formation is altered or modified, the locations of excavation and filling, and the corresponding volumes of earth removal and deposit can be computed and displayed, using MAPLE.

MAPLE software was developed for the microcomputer, to demonstrate that even the smaller planning and design firms, with limited budgets, can utilize relatively inexpensive computer technology, to undertake certain complex tasks, for decision making in such realms as regional planning, site selection, and landscape architecture.

** SPACE GRAPHICS and SPACE TABLET are the trade marks of MICRO CONTROL SYSTEMS, Inc.*

 # SPACE GRAPHICS software is incapable of removing "hidden lines".

Arthur D. Johnson, FAIA

Arthur D. Johnson has been selected for membership into the College of Fellows of the American Institute of Architects. Johnson's organizational talents led him to a partnership in a large comprehensive firm, that of Dana Larson Roubal & Associates. He has devoted his professional career to design and technical excellence through the development of production, quality control, and concise contract document systems. His successful efforts to gain quality performance has, in part, resulted in many state, regional, and national awards for architectural excellence for his firm.

He experienced disappointment in the lack of stimulation and education in his AIA involvement and that of his colleagues. His strong commitment to fine tuning professional skills led him to a new challenge. After many searching sessions with Nebraska and regional architects, the lack-of-interest attitude toward AIA was resolved down to a simple objective – meaningful professional involvement.

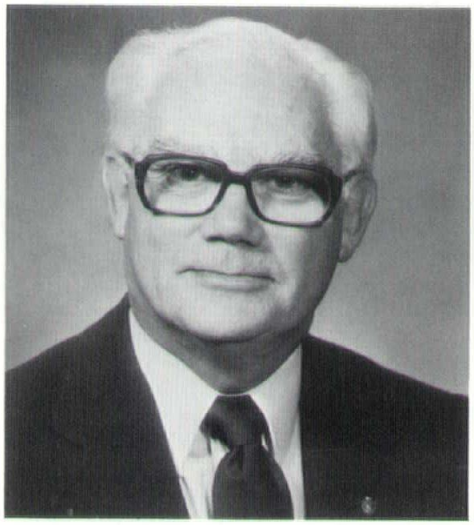
The need was there and the renaissance started when Johnson began his first AIA assignment. As president of the Nebraska Society he developed the criteria for the recipient of the Distinguished Architect Award presented annually to a Nebraska architect who has made a significant contribution to the profession in Nebraska. Johnson organized the first annual conference of the Nebraska Society, planned around two days of hands-on seminars, workshops, design awards and critique. The annual recognition dinner provided membership the opportunity to discuss architecture with the Institute President and Regional Directors. This program is now a planned annual activity. The opportunity to support the nomination for Jean Gardiner Muntz, executive secretary of the Nebraska Society, for Honorary AIA was one of the most rewarding endeavors for Mr. Johnson.

Johnson's AIA promotional success drew him into other professional organizations to utilize his abundance of organizational energy and talents. Although he devoted a great deal of time to his national firm, he still found time to give of himself to many national, state, and local professional activities. He is the only Nebraska architect to serve as president of the Omaha Chapter, Nebraska Society AIA, Nebraska Chapter CSI, State Board of Examiners, and the Architectural Foundation of Nebraska.

For his dedication and personal involvement in the College of Architecture and the profession he was honored by Tau Sigma Delta.

Arthur Johnson developed a lobby relationship with the Nebraska Legislature on the issues of codes, sunset legislation, taxation, and funding for state projects. He was instrumental in the adoption of the new registration law and Code of Practice. His strong advocacy and persistence has resulted in the passage of AIA-supported bills benefitting the public, the profession, and in the defeat of harmful legislation.

Johnson has practiced his profession in the belief that individual architectural achievement has been very satisfying, but more than bread alone, allows a part of himself to grow



in young talents through exciting and challenging programs of meaningful professional inprovement – this is the real bottom line reward of his profession, "professional excellence for all."

RIBA Drawings at AIA Museum, Washington

Eighty-two major works from the Drawings Collection of the Royal Institute of British Architects (RIBA), considered to be the greatest and most diverse archive of architectural drawings in the world, will be on display in an exhibition called "Great Drawings from the Collection of the Royal Institute of British Architects."

The exhibit will be shown May 22-July 15 at the Octagon, a historic house and architecture museum owned and maintained by The American Institute of Architects Foundation at 1799 New York Avenue, N.W., Washington, D.C. The RIBA exhibit marks the reopening of the Octagon's galleries, which are now renovated and include movable partitions and new lighting.

Founded in London in 1834, the RIBA's Drawings Collection of over 200,000 works is a record of British architectural draftsmanship from the 15th century through the present and includes drawings by French, Italian, Indian and American architects.

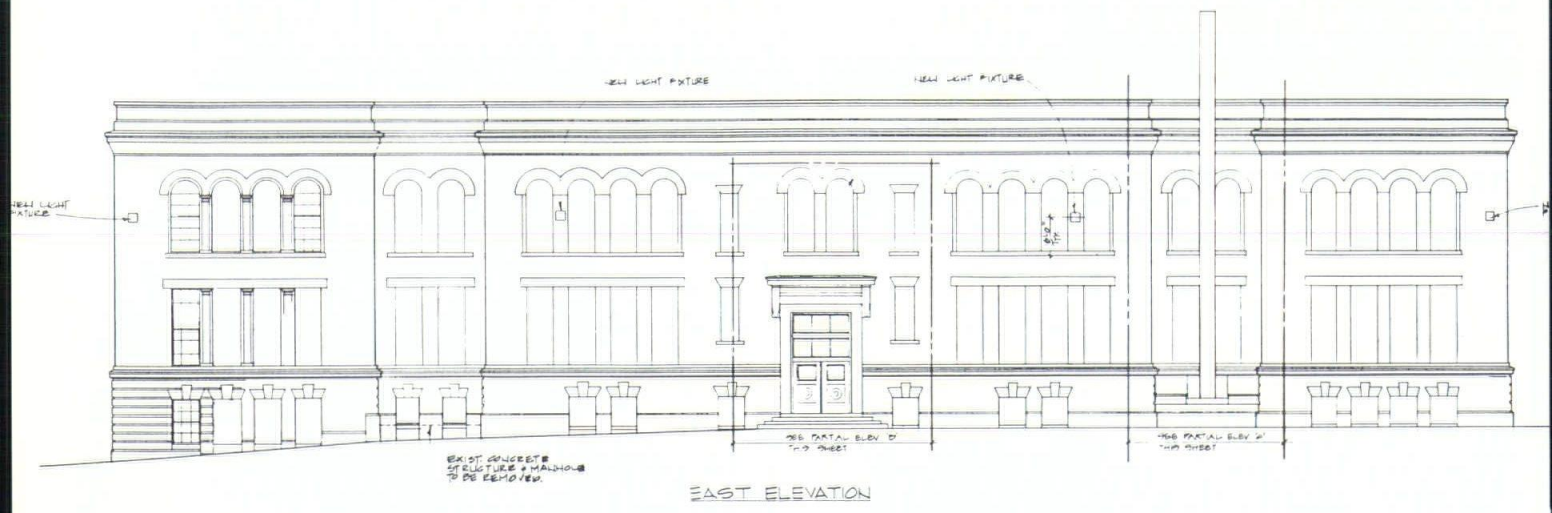
The drawings featured in the Octagon exhibit are by such renowned architects as Andrea Palladio, Inigo Jones, Sir Christopher Wren, Antonio Galli Bibiena, Robert Adam, Sir John Soane, Frank Lloyd Wright, Ludwig Mies van der Rohe and James Stirling, as well as the work of lesser-known draftsmen. Many of these drawings are being seen in the United States for the first time.

The exhibition documents the changing visions of architects, primarily British, from the late-15th century through the 20th century with working drawings of buildings actually realized, conceptual studies, and fantasies and other unexecuted designs. The works range from a late-15th-century English design for a tower with turrets to Richard Rogers' elevation drawing for the rebuilding of Lloyd's of London. also included in the exhibition is a complete traveling architect's kit of sterling silver measuring instruments.

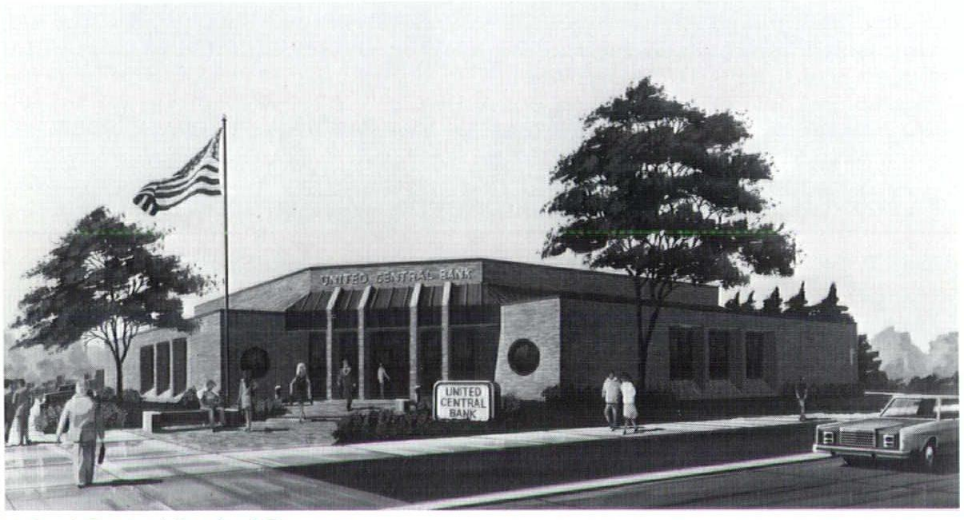
After leaving Washington, the exhibition will travel to the Archer M. Huntington Art Gallery, Austin, Texas, and the Art Institute of Chicago.

Lawrence Enerson Memorials

Memorial contributions can be made in the memory of Lawrence Enerson, F.A.I.A. to the Architectural Foundation of Nebraska. Acknowledgement will be sent to the family. Contributions should be sent to 1910 South 44th Street, Omaha, Nebraska 68105.



Monmouth Park Place



United Central Bank of Spencer

Jackson-Jackson & Associates

The United Central Bank of Spencer was designed to be a focal point and gathering area at the north end of the central business district of Spencer, Iowa. To achieve this objective, the entrance into the building was designed at a 45° angle creating a plaza at the corner. The building was elevated approximately three feet to give it a feeling of importance and glass was used across the front entry to let the public see activity inside the building. To enhance the visual impact of looking into the building a larger triangular skylight was designed over the lobby to allow natural light to flow down into the public space.

A unique feature of this particular building is the "head-on" drive-up facility on the west of the building. Cars approach the building at a 90° angle and the tellers serve them from that particular point. The traffic flow around the site and necessary areas of parking dictated this particular design solution.

The building consists of approximately 10,960 square feet. It is a single-story building, brick veneer with standing seam metal roofs around the majority of the structure.

Interior features of the bank include red oak trim throughout with polished brass accents around the indirect lighting cove at the lobby and at the teller counters. Twelve inch by twelve inch ceramic tile flooring connects the front entry to the rear entry at a 45° angle bisecting the lobby and creating a visual separation between the operations area and the executive areas of the bank.

The bank is designed for future growth with a possible addition of 5,000 square feet to the north and west of the building.

Ambrose Jackson Associates

R.E. Cunningham has been promoted to Vice President by Ambrose Jackson Associates, Inc. of Omaha. Cunningham, a native of Omaha, has been an Associate with Ambrose Jackson Associates, Inc., an architectural firm based in Omaha with projects in sixteen states.

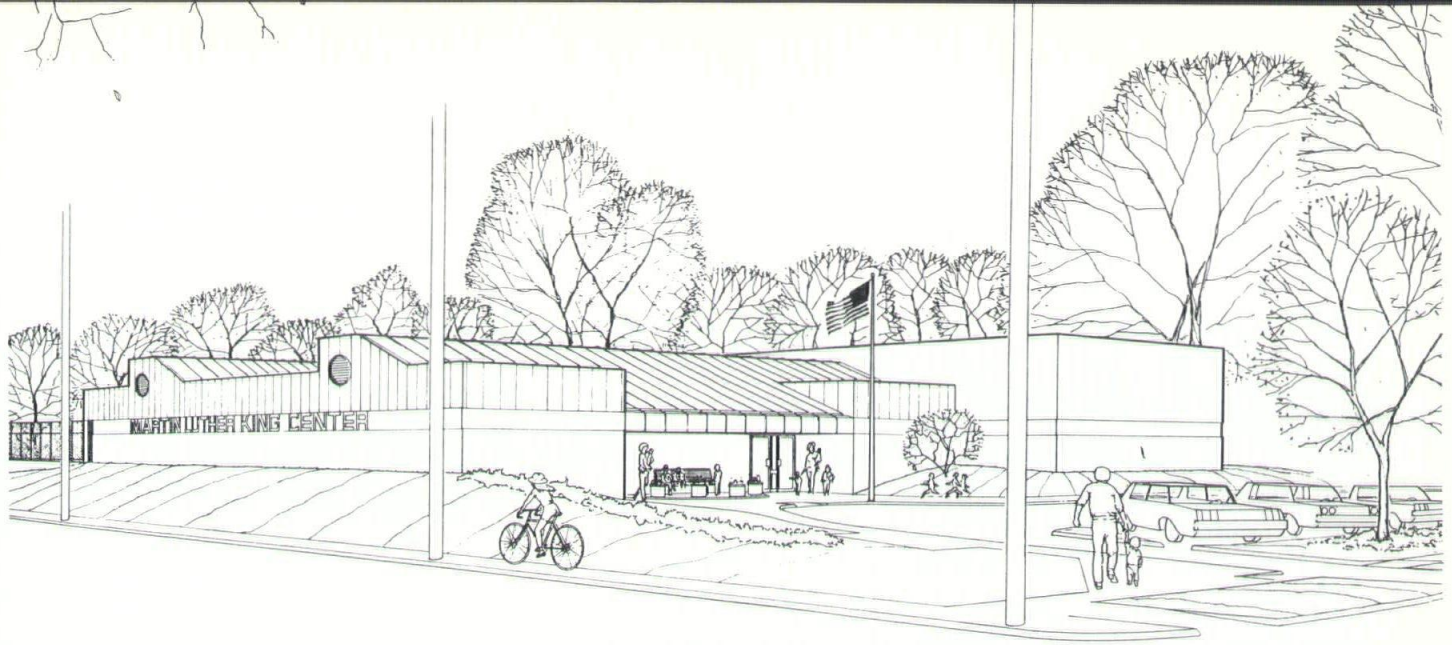
His responsibilities include marketing and promotion, office management, and project management. Cunningham rejoined the firm in 1981 after two years of teaching Architectural Design and Graphics at the University of Nebraska-Lincoln.

Cunningham has a Master of Science (Structural & Traffic Engineering), Master of Architecture and a Bachelor of Science in Architectural Studies from the University of Nebraska-Lincoln.

He is a Board Member of the Omaha Chapter of the American Institute of Architects and serves on the Professional Advisory Council of the College of Architecture, University of Nebraska-Lincoln.

Martin Luther King Center

Ambrose Jackson Associates announces the beginning of construction of The Martin Luther King Center, Omaha, Nebraska. The 11,000 SF recreation and day care center will provide care for 60 children, from infants to school age and has a multi-purpose room for community activities and other school recreation. The AJA design incorporates south oriented trombe walls, clerestory light monitors, earth berming and natural ventilation to create a building which is an energy miser and has interior spaces with abundant daylight. The AJA plan also calls for a playground on the southern portion of the project site. AJA's client in this venture is the Omaha Housing Authority.



Martin Luther King Center

John M. Miller

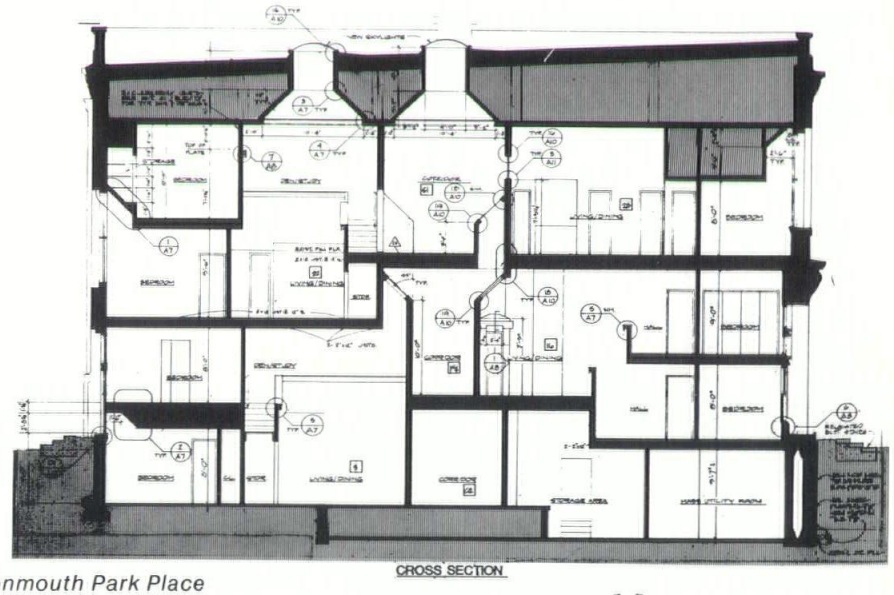
Ambrose Jackson Associates, Inc., announced that John M. Miller has joined the firm as an Associate. Miller, a registered Architect, has experience in large institutional and commercial projects. His responsibilities with AJA will include project management and business development.

Ambrose Jackson Associates, Inc., specializes in adaptive re-use and energy conscious design.

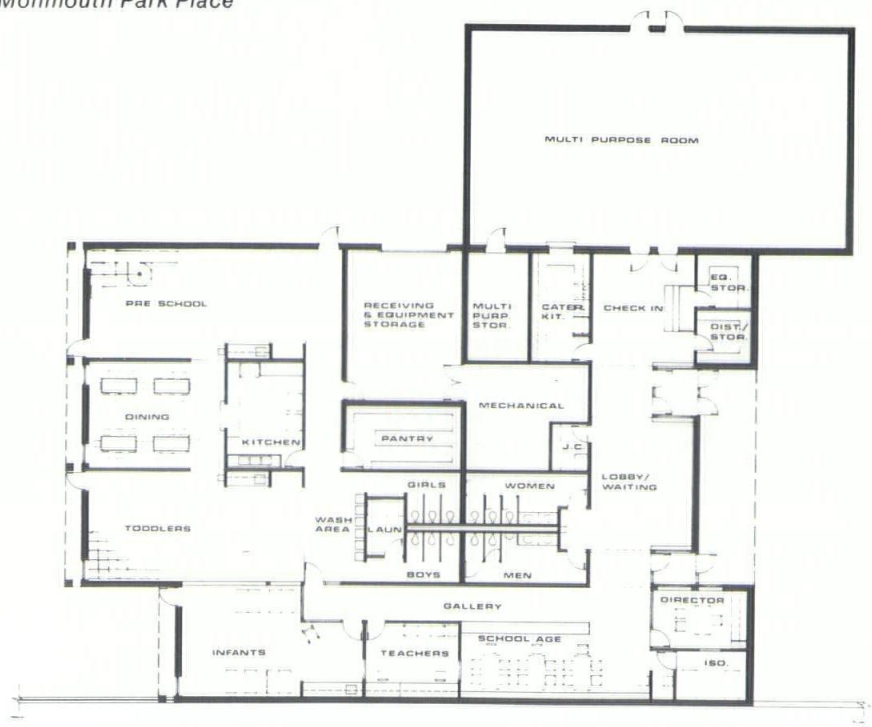
Miller has a Bachelor of Architecture from Kansas State University and is a member of the American Institute of Architects and the Construction Specifications Institute. He was previously a staff Architect in the Washington, D.C. and Seattle offices of Henningson, Durham and Richardson, and a Project Architect in the Omaha office.

Monmouth Park Place

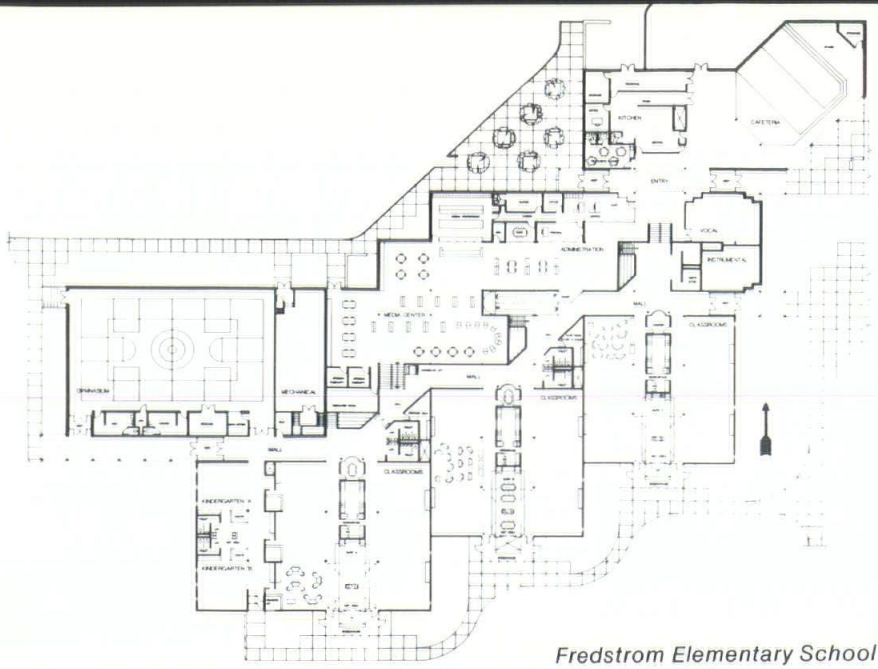
Ambrose Jackson Associates' adaptive reuse plan for the 1903 Monmouth Park Elementary School (Omaha, NE) designed originally by Thomas Kimball is nearing completion. AJA's plan dubbed "a model for the architectural use of these buildings" (vacant schools) calls for converting the 16 classroom structure into a 30 unit apartment complex. The historic brick structure's exterior is to be basically restored and the site landscaped to plantings, picnic, playground, garage and parking uses. For the interior, AJA introduced 5 skylights, clerestories into apartments and light wells between the building's three corridors to permeate the spaces with daylight. The complex's 30 units are comprised of one, two and three bedroom units which vary from full two story units to split level and single level units.



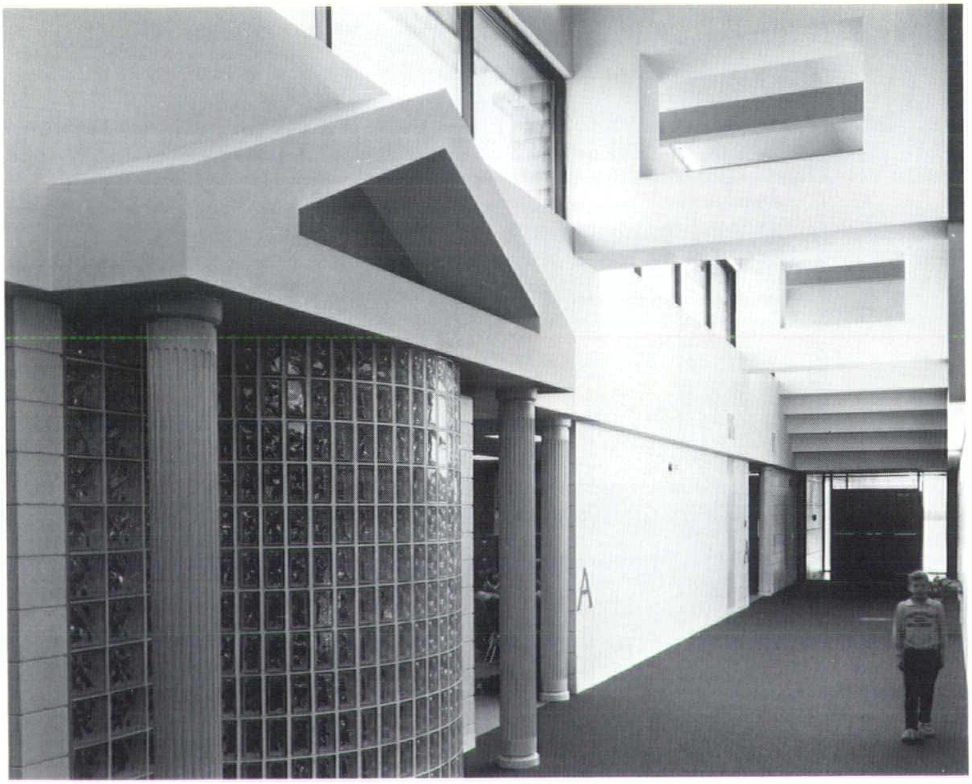
Monmouth Park Place



Martin Luther King Center



Fredstrom Elementary School



Firm Completes Sixty Years of Service

The Kearney firm of Helleberg and Helleberg is celebrating its sixtieth year of operation this year. The firm is a spin-off of the Grabe and Helleberg, Architects firm which was located in Columbus, Nebraska from 1914 to 1923. When the firm dissolved in 1923, each of the partners agreed to relocate. George Grabe moved to Fremont, and John Helleberg to Kearney where he founded the firm John Helleberg, Architect. The firm was renamed Helleberg & Helleberg in 1946 when Helleberg's oldest son John P. Helleberg, Jr., joined the firm. Helleberg's youngest son Rex joined the firm in 1951.

The firm has completed a variety of projects, including several schools, churches, hospitals, and commercial work throughout Nebraska, Colorado, Kansas, South Dakota, Minnesota and Montana. The firm is currently owned by Rex S. Helleberg, who is a registered architect in ten midwestern states as well as past president of the Nebraska Society of Architects in 1979 and the Western Chapter in 1971. Several family members participate in the firm's operation. Rex's daughter Karen, an art major at Kearney State College, does art and design work, and his wife Marilyn is a part-time computer technician and technical writer.

Clark Enerson Partners

At the dedication of Lincoln's newest educational facility, the Fredstrom Elementary School, former superintendent John Prasch said: "The building strikes a forward-looking note; it speaks dramatically to imaginative use of space. It is innovative for the new teaching methods, facilitating quality education when the nation is calling for quality education."

The school, designed by The Clark Enersen Partners, Inc., is located on a sloping site with a panoramic view of Lincoln, and is adjacent to a City park. It "steps" down the site to the south to take advantage of passive solar heating, maximum daylighting, and a dramatic view of the State Capitol.

Three clusters, consisting of six open classrooms each, and the kindergarten facility form the lower and southern-most tier of the building. Each classroom cluster is grouped around a central wet area for "hands-on" activities. This common "core" space is covered by a large greenhouse skylight which diffuses natural light throughout the classroom cluster and acts as a collector to provide supplemental heat which is diverted to other areas of higher demand.

A generous ramped circulation spine connects the classroom clusters to the upper support facility tier. Central to this grouping is the media center which serves as the nerve center to the plan's organization. Administrative offices, special learning activities, vocal/instrumental music, and the cafeteria/kitchen also feed into this circulation artery. A lower tier (beneath the media center) of large group discussion areas requiring minimum light level and high acoustic separation, is directly across from the classroom clusters. It also provides emergency storm protection. The gymnasium facility is planned for joint community use in that it has a separate entrance and forms the terminus of the interior circulation way.

Constructed with a steel post and beam structure and brick veneer, this 60,000 square foot facility was designed by The Clark Enersen Partners Inc. to be remodeled as the Community's educational needs change during the building's lifetime.

Frank E. Fisher Jr.

Frank E. Fisher, Interior Plantscape Consultant at Flowers by Fisher, Inc. has become the 100th person worldwide to be admitted to the National Council for Interior Horticulture Certification (NCIHC).

Fisher, recognized for his professional abilities to design, instal

and maintain indoor foilage plantscapes, has completed every phase of the certification process over the last several years and officially received formal endorsement by industry leaders.

NCIHC, a non-profit council, was formed to maintain high standards within the interior landscape industry. The certification process is used to qualify and identify professionals in the industry. This includes written testing; examination of educational, professional and personal backgrounds as well as a review of business projects and workmanship.

Wilscam Mullins Birge, Inc.

The Omaha-based firm of Wilscam Mullins Birge, Inc. has moved from the location at 3220 Harney Street to newly remodeled offices at 20th and Harney. The 20th and Harney Building was designed in the early 1900s by Albert Kahn.

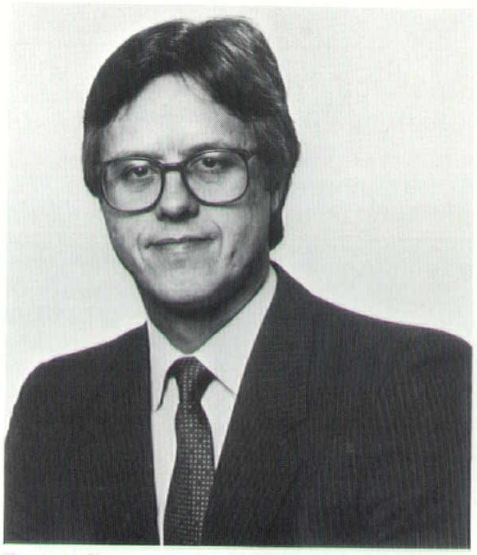
The remodeling project involves the complete programming and adaptive re-use of approximately 20,000 square feet of interior space on two floors. The space has been designed for executive and administrative offices, as well as an open-plan design for technical, secretarial, and support staff.

Young Named Principal of Sasaki Associates, Inc.

Larry R. Young, architect, has been named Principal of Sasaki Associates, Inc., a multidisciplinary design firm headquartered in Watertown, MA with regional offices in Coral Gables, FL and Washington, D.C. The promotion of the Senior Associate in the 220-person firm expands the ownership and senior management team to 14 Principals.

Mr. Young, who is a registered architect, joined Sasaki Associates in 1972 and has been involved in many large commercial and institutional projects. He was project manager for the schematic design phase of the $47 million Bank of Boston Administrative Complex in Farmingham, MA and for the $75 million corporate headquarters complex of Northwestern Mutual Life Insurance Company in Milwaukee. Previously, he was job captain for the $20 million Samuel P. Capen Hall, a multi-use building at the State University of New York at Buffalo, Amherst Campus. For the last two years Mr. Young has coordinated management and staff for all architectural and interior design services at Sasaki Associates' headquarters office.

Mr. Young received a Bachelor of Architecture degree from the University of Nebraska in 1966. Prior to joining Sasaki Associates he served in the



Peace Corps in Tunisia and worked for several other architectural and interior design firms. He received a Winston Churchill Traveling Fellowship in 1980 through which he studied the recycling of historic landmark structures in England.

Sasaki Associates, Inc. provides planning, architecture, landscape architecture, urban design, civil engineering and environmental services to a broad range of clients throughout the United States and abroad.

Keeler/Raynor and Associates

The Architectural firm of Warren Keeler and Associates, established in 1968 in Bellevue, has become Keeler/Raynor and Associates. The office will remain at 101 West Mission Avenue. Dennis L. Raynor is a 1976 graduate of the University of Nebraska at Lincoln. He has been with the firm since graduation, and became a registered architect in 1981.

The firm's work has encompassed a variety of design assignments, including clients in all levels of government. Recent military projects for the Corps of Engineers and the Air Force have varied from buildings with functions of a highly technical nature to a recent assignment at Offutt Air Force Base involving restoration work on the historic General's Row and N.C.O. quarters. County government has also been an important client, and includes various additions and remodeling projects of office facilities for the wide diversity of Sarpy County functions. Work for the City of Bellevue has been a major factor in the success and expansion of Keeler/Raynor and Associates. Projects include the restoration of Bellevue's historic buildings in 1973, the City Library in 1974, and the City hall in 1977. Thirty-one units of low rent housing on five dispersed sites are presently under construction for the Bellevue Housing Authority.

A mainstay with the firm has been the on-going assignments from the Bellevue School District. Work started in 1968 with the remodeling of Avery School, followed by five building additions and several remodeling projects over a 15 year period. In 1980, a maintenance and energy conservation study was undertaken for all 20 buildings of the School District. Construction started in August on a 2.5 million dollar elementary school in the southwest portion of the district.

Projects for the Fontenelle Forest Association have included remodeling and building additions. A landscaped entrance and major changes in parking facilities have resulted in a dramatic change to the main entrance of the Nature Center.

A village setting of forty-eight units of senior citizen housing on a seven acre site at the northwest corner of St. Columbans property was expected to begin construction last fall. The project is being sponsored by the Columban Fathers under a program of HUD.

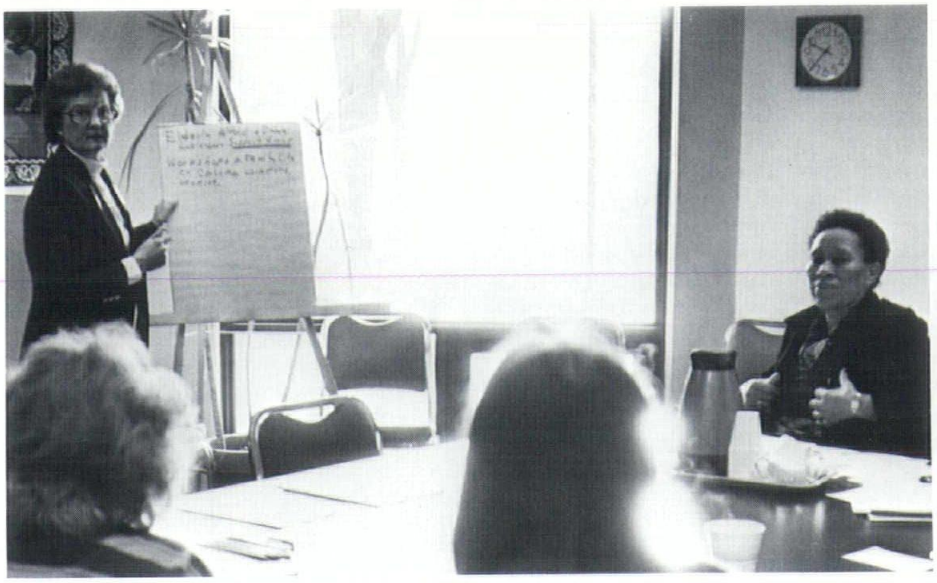
Churches have become an increasing part of the company's design services in recent years, with projects in Missouri, Iowa and Nebraska. In 1980, the firm received an award for excellence in architecture from the Nebraska Society of Architechs for the design of Immanuel Lutheran Church of Bellevue. Other church projects have involved interior rehabilitation, major additions and master planning.

The diversity of design assignments is evident in projects ranging from the functions of a church to the industrial processing of Lackawanna Leather Company of Omaha. Nursing homes, churches and senior citizen housing in Missouri; banks and churches in Iowa and a wide range of projects in Eastern Nebraska have contributed to the growth and success of the firm since 1968.

With the exception of Mr. Keeler, the staff member of longest tenure is Lisa Keeler who joined the firm in 1970 as secretary and was designated as Office Manager in 1980.

The size and scope of projects have doubled the staff size during 1983. Keeler and Raynor credit this to the diversity of clients and the variety of projects designed by the firm.

Professor Marie Arnot and Malone Community Center staff work together on determination of program objectives.



Professor Arnot Receives Grant

Marie Arnot, associate professor, Department of Community and Regional Planning, has received a grant to develop a Long-Range Program and Management Plan in cooperation with the Malone Community Center in Lincoln. Funds granted for the project will be used to support two graduate assistants from the CRP Department, with the United Way providing such in-kind services as typing. Students in Professor Arnot's Planning with Minority and Low Income Groups class will be involved with this project, working closely with the two graduate assistants in assessing needs, formulating goals and objectives, and developing a plan of action, thus enabling them to gain invaluable experience in an applied planning process.

The Malone Community Center (formerly known as the Lincoln Action League) was organized in 1935. Today, the center serves three Lincoln Neighbors; Clinton, Hartley and Malone. The plan is being undertaken to facilitate the efforts of the center toward developing programming to serve these three neighborhoods as well as continue its historic commitment to Blacks and other minorities.

Tidball Award To Arnot

M. Marie Arnot, University of Nebraska-Lincoln associate professor of community and regional planning, has been awarded the 1984 Sue Tidball Award for Creative Humanity.

The Tidball award honors people who make significant contributions to the development of a humane, open, caring, educationally creative and just community on the UNL campus. The award is sponsored by the United Ministries in Higher Education in cooperation with a committee of UNL faculty, students and staff.

Arnot has served on the board of directors of the Lower Platte South Natural Resources District and has chaired the planning committee of the Region II Crime Commission. She serves on the Planning Division of the United Way of Lincoln-Lancaster County and is chairman of the Comprehensive Emergency Services Committee.

She also has served on adhoc committees of the Lancaster Office of Mental Retardation and has volunteered at the County Jail with the Crime and Community Program.

Kenneth W. Hietbrink

Kenneth W. Hietbrink, AIA, a Nebraska native and 1968 graduate of the University of Nebraska School of Architecture, was installed as 1984 President of the Tulsa Chapter American Institute of Architects during ceremonies at the December Inaugural Banquet held at the Williams Plaza Hotel in Tulsa, Oklahoma.

Hietbrink has been practicing architecture in Tulsa for 15 years and currently is a principal in the firm Hietbrink Wilbanks Architects, Inc.

A charter member of the University of Nebraska Tau Sigma Delta Honorary Art and Architecture Society, Hietbrink currently serves as a member of the Board of Directors for the University of Nebraska Architecture Alumni Association.

Hietbrink has been actively involved in The American Institute of Architects (AIA) since 1975. Besides serving on a number of Chapter Committees and spending several years as a member of the Tulsa Chapter AIA Board of Directors, Hietbrink, in 1976, founded an AIA event dubbed the Arkansas River Sandcastle Contest. This annual community event now draws several thousand participants and spectators each summer to the river flowing through downtown Tulsa.

London 1984 Program

The foreign study program to London sponsored by the Department of Architecture for 4th year and graduate students is being conducted by Professor R. Duncan. The group is one of the largest ever sent, having 26 students from UNL and 10 students from Arizona State University. Assisting Professor Duncan is Kathy Lechleiter, a recent Masters degree graduate who is responsible for the Arizona State students. Bob Carlson is the graduate teaching assistant for the Nebraska students.

The group is staying at the Hyde Park West Hotel in the Kensington/Notting Hill area of London. They share the hotel with 75 students from the University of California-Fresno who will be conducting a semester-long program with five instructors in social science and the arts. Plans have been made between the two schools to collaborate in a variety of activities such as weekend trips to historic sites and a number of social events.

The thirteen week program will include classes in design, urban design and history. As in the past, the students make use of the Architectural Association lecture series. Adjunct Professor Dick Hill aids in securing visiting critics for the group.

A highlight of the program will be a special one-week trip to Scotland in connection with the urban design class. Professor Duncan has planned a full itinerary of activities with numerous tours and lectures from his colleagues and professional contacts in Scotland. Travels should take the students to Edinburgh, Glasgow, Stirling, Aviemore, Inverness, Kyle of Lochalsh, and Mallaig in Scotland. Also included will be visits to York, Chester, and Shrewsbury in England. This special mini-tour will provide the class with a special insight into Scotland and its environs.

Following the formal portion of the program, all students will be traveling during the summer.

John Reps Lectures in Nebraska

John W. Reps, Professor of City and Regional Planning at Cornell University, visited Nebraska in March to participate in four events, including a March 14 lecture at the College of Architecture on "Saints and Cities: Mormon Urban Planning in the Settlement of the American West."

Professor Reps has achieved international recognition as a leading scholar in the history of urban planning and development in North America. He has authored nine books and numerous book chapters, encyclopedia entries, and articles on various aspects of the history of urban planning.

In 1980 he was awarded the prestigious Albert J. Beveridge Prize of the American Historical Association for his 1979 book, *Cities of the American West: A History of Frontier Urban Planning.* One chapter in this work, "Urban Planning on the Central Plains: The Settlement of Nebraska," presents illustrations and text on several Nebraska towns and cities, including Bellevue, Florence, St. Derion, Aspinwall, Nemaha City, Brownville, Peru, Plattsmouth, Tekamah, Dakota, St. John's, Nebraska City, Columbus, Pawnee City, Omaha and Lincoln.

Professor Reps' latest book, scheduled for publication in March, 1984, is entitled *Views and Viewmakers of Urban America: Lithographs of Towns and Cities in the United States and Canada, Notes on the Artists and Publishers, and a Union Catalog of Their Work, 1825-1925.*

While in Nebraska, Professor Reps also participated in the eighth annual symposium of the Center for Great Plains Studies at the University of Nebraska-Lincoln. His paper, "The El Grecos of the Great Plains," traced European influences on the urban views and viewmakers of the Great Plains region.

On March 13 Professor Reps presented a lecture on "Nineteenth Century Town Planning by the Western Railroads" at the Western Heritage Museum, housed in Omaha's old Union Station. This program was sponsored by the Nebraska Chapter of the American Planning Association, with the cooperation of the Western Heritage Museum and the Union Pacific Railroad.

Professor Reps also participated in a weekend program at the Stuhr Museum in Grand Island on March 10 and 11. Following his Nebraska lectures, he proceeded to Kansas for further speaking engagements.

Tall Building Treatise Published

Ms. Frances Ya-sing Tsu has participated in the preparation of a unique publication that was released last month. This publication is entitled *Developments in Tall Buildings – 1983,* published by Hutchinson Ross Publishing Company and distributed by Van Nostrand Reinhold Company (New York). This volume updates a set of five previous volumes released from 1978-1981, entitled *Planning and Design of Tall Buildings.* The full set covers every aspect of the high-rise – architecture, engineering, planning, economics, transportation, social effects, psychological factors, operation, and maintenance.

Ms. Frances Ya-sing is a Visiting Professor of the College of Architecture at the University of Nebraska-Lincoln, from Tong-ji University, Shanghai, China. Her role in this effort was as a member of the History of Tall Buildings devoted to the most recent advances in tall buildings since the original monograph. It contains 72 articles arranged in five major subdivisions.

Professor Tsu commented, "During my stay in the U.S., I have toured over 20 cities including New York, Chicago, Atlanta, Dallas, Houston, San Francisco and Los Angeles. One of the most impressive architectural highlights to me was the divergent effect of erecting an enormous number of high-rise buildings in the downtown area of Houston and the new developments in the outskirts of the city. This demonstrated that when the important factors of planning and design are Committee. She was responsible for preparing a Manuscript entitled *High Density Housing in Shanghai. Developments in Tall Buildings – 1983* is not taken into consideration, the high-rise building can detract from the city in terms of the physical environment for habitation, the aesthetic appearance and economical efficiency. When properly planned and designed, the high-rise building not only will cope well with today's exploding world population but also will perform the magnificient space composition of the built environment with a scale non-existent in history and will manifest and promote the progress of modern science and technology. Therefore, exchanging information on the research and practicing experiences of different professionals under divergent contexts in various countries and regions is most invaluable. The monograph *Developments in Tall Buildings – 1983* provides the latest works of 90 professionals from all over the world."

Professor Keith Sawyers: Curriculum Enrichment

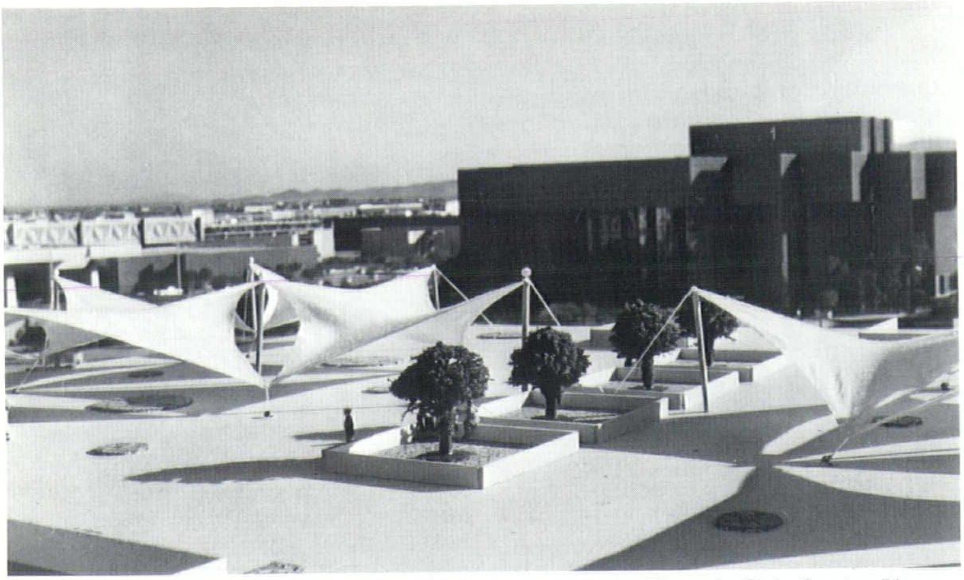
Keeping abreast of current trends in architectural design and preparing a new course on Great Plains architecture has proved to be an especially challenging and rewarding experience for Professor Keith Sawyers during the past one and one-half years. Believing that the actual on-site spatial experience of a building enhances one's ability to analyze its significance in the classroom, Professor Sawyers has recently travelled to the sites of more than 250 outstanding buildings located in Europe and the United States with the aid of two Faculty Development Grants.

The European phase of the project involved nearly three months of travel in Great Britain and on the Continent during the spring and summer of 1982. This resulted in a major revision of his course in contemporary architectural history and production of the college publication, *Directions: A Guide to Modern and Contemporary Architecture in Western Europe,* co-authored with his wife, Sharon, and Jim Fagler, a recent graduate of the master's program.

This past summer, Professor Sawyers spent five weeks traveling through the Upper Midwest and Northeastern United States. The principal subject of investigation was significant architecture built during the past decade. The results of this study, including photographs, are currently being integrated into existing courses.

A secondary purpose of the recent summer project was to gather on-site information and photographs for the first portion of a new elective course, "Architecture of the Great Plains." This initial segment of the seminar will examine the historical context of nineteenth and early twentieth century architecture on the Great Plains by briefly reviewing architectural antecedents in the United Stated from Colonial times to the mid-nineteenth century. The bulk of the course will focus upon the evolution of architectural design as modified by the distinctive physical, cultural, ethnic, economic and technical influences of the Great Plains.

This new course is open to the university community and has been approved for the undergraduate and graduate degree programs sponsored by the Center for Great Plains Studies, UNL.



Rico Eastman

Model of the tensile structures that will be erected on the Phoenix Civic Center Plaza.

Specifying Directory to be Published

A new regional specifying and buying directory for architects and affiliated professionals will be produced by Pactel Publishing, a subsidiary of Pacific Telesis Group, as part of a joint publishing venture with The American Institute of Architects Service Corporation (AIA/SC).

The directory, to be called MASTERGUIDE, is designed to be a comprehensive reference source for information on building product manufacturers and distributors. Scheduled for production in early 1985, the publication "will fulfill a market need which is currently not satisfied by existing products," according to AIA/SC President James P. Cramer.

The AIA's new specifying and buying directory will be published annually in four separate regional editions: Northeast, Southeast, Central and West. It will be organized much like a yellow-pages directory, with listings of manufacturers' names, addresses and other pertinent information. Data will be structured into more than 700 heading categories familiar to the industry. Also included will be an alphabetical section of manufacturers, a key word index and a product trade name index.

Copies will be available from the AIA Service Corporation. Contact: Marianne Bohr, AIA/SC, 1735 New York Ave., N.W. Washington, D.C. 20006, (202) 626-7585.

"Working Together – Public/Private Partnership"

How architects can contribute to predesign planning before site development will be the focus of a national workshop sponsored by the Housing Committee of The American Institute of Architects, June 23, in St. Louis.

The intensive workshop, "Working Together – Public/Private Partnership," will feature panel discussions by developers, engineers, mortgage and real estate brokers, appraisers and other professionals who decide whether development of a particular site is economically feasible. The panelists will outline their roles in the preplanning process and describe financial and development implications considered when they select a site.

The discussion will follow a full day of on-site visits to projects in the St. Louis area.

Workshop participants will join local architects on teams to devise a project and strategy for developing a particular site.

To conclude the program, a panel of architects will discuss important contributions design professionals can make to site planning, including how to best use a site and deal with design constraints placed on development by the site itself.

St. Louis architect Dan S. Mitchell, AIA, is chairman of the Housing Workshop Task Force, which is planning the June 22-23 meeting. Randall B. Miltenberger, AIA, is serving as co-chairman. Other members of the task force are Wayne W. Enderling, AIA, Robert Lutz, AIA, Gregory S. Palermo, AIA, Rick A. Schaffer and Betty Lou Custer, FAIA.

For registration information, call Betty Lou Custer at (314) 621-3484.

Tent Structures Serve Phoenix District

Diamond-shaped mesh tent structures that protect against the heat while having a transparent quality for those beneath them will cover part of the Phoenix Civic Plaza – serving as the first demonstration project for the city's streetscape redevelopment district and providing shelter during The American Institute of Architects May 5-9 convention, "American Architecture and Its Public."

The AIA, as a gift to the city of Phoenix, will provide funds for one-half of the cost of the demonstration project, which was approved by the Phoenix City Council at its January 23 meeting. According to Phoenix Mayor Terry Goddard, the innovative fabric sculpture is expected to provide ideas for the city on shade structures that can be used downtown in the future.

Designed by Bill Moss, a tensile-fabric designer from Camden, Maine, currently an adjunct professor at Arizona State University, the tent structures consist of twelve 40-foot-square modules that reach a height of 30 feet in the center.

State Convention – 1984

The Nebraska Society of Architects will be holding its 1984 State Convention on May 11th at Lincoln's new Cornhusker Hotel.

Lunch will be served at the Cornhusker, followed by a seminar on "What Computers Can't Do" presented by Brito Mutunayagam, Associate Professor of Community and Regional Planning at the University of Nebraska at Lincoln. Brito teaches classes on Computer Applications in Architecture and Environmental Development. His academic credentials include a Doctor of Environmental Design and Planning from Virginia Polytechnic and State University, a Masters Degree in Engineering, a Diploma in Town and Country Planning, and a B.S. in Engineering. Vendors will also be on hand to demonstrate their computer systems.

Alumni to Meet

The College of Architecture Alumni will be meeting during the national conferences of the American Institute of Architects in Phoenix and the American Planning Association in Minneapolis. Both conferences are scheduled for May 5 through 9. The Architects are invited to an informal dinner party at The Pointe at Squaw Peak in Phoenix on May 6. The Planners will be getting together sometime during the conference in Minneapolis. For more information, call the College of Architecture at 402/472-3592 or check the bulletin boards at the conferences.

Vietnam Veterans Memorial Wins Architecture Award

One year after its dedication in Washington, D.C., the Vietnam Veterans Memorial has been awarded the Henry Bacon Medal for Memorial Architecture by The American Institute of Architects.

The Henry Bacon Medal, named in honor of the designer of the Lincoln Memorial in Washington, D.C., rewards excellence in memorial architecture around the world. The medal will be presented during the 1984 AIA National Convention in Pheonix, May 5-9.

The memorial was designed by Yale architecture student Maya Ying Lin, whose plan was chosen from 1,421 entrants in a design competition sponsored by the Vietnam Veterans Memorial Fund in 1981. The memorial was developed and executed by the architects of record, Kent Cooper, William Lecky and Carla Corbin of The Cooper-Lecky Partnership, Architects, Washington, D.C.; landscape consultant Henry Arnold; structural engineer James Madison Cutts, and the Gilbane Building Company.

Dedicated on Veterans Day, 1982, the reflective black granite "V," which seems to emerge from the earth on the west end of Washington, D.C.'s Mall, has been visited by an estimated two million people during its first year on public view.

The walls of the structure are inscribed with the names of the almost 58,000 Americans who lost their lives in Vietnam between 1959 and 1975, and point to the nearby Lincoln Memorial and the Washington Monument, linking the monument's theme of sacrifice with historical tradition.

Comments received from nominators reflected on the memorial's "power" and "timelessness" and the ability of "its infinite reach and meditative ambiance to evoke profound pause and reflection on both our past and our future." The design was extolled as "quietly monumental and, at the same time, breathtaking" and called a "beautifully simple composition that is powerfully inspiring."

The AIA supported both the construction of a memorial to Vietnam veterans and the competition to select its design. It also has led numerous efforts to insure the integrity of Lin's concept and the competition concept. The memorial competition was based on AIA guidelines, and Washington architect Paul D. Spreiregen, FAIA, served as professional adviser to the competition jury of eight internationally recognized artists and designers.

The Vietnam Veterans Memorial is only the fourth recipient of the Henry Bacon Medal. It was first awarded in 1966 for the Gateway Arch in St. Louis. In 1969, it was presented for the Fosse Ardeatine Caves in Rome. A Paris memorial to French victims of Nazi concentration camps, La Memorial des Martyrs de le Deportation, received the award in 1975.

AIA Convention Keynote

The role of the architect in responding to changing lifestyles and serving needs of a healthier, more leisure-oriented and better-informed public over the next 20 years will be addressed by one of the nation's foremost forecasters, Dr. Marvin Cetron, at The American Institute of Architects 1984 National Convention, May 5-9, in Phoenix.

Cetron, founder and president of the Arlington (Va.) think tank Forecasting International, will deliver the keynote address at noon on "Public Sunday" (May 6) in the Phoenix Symphony Hall. His speech will highlight a full day of special events and ceremonies – all open to the public in keeping with the convention theme "American Architecture and Its Public."

In his forecast of life in 2000, Cetron takes "the shock out of the future and enables us to prepare with foresight for the coming decades," according to M magazine. "He guides us through the next 20 years with data-based forecasts, giving expert, practical advice on investments, careers, families, health and longevity."

His forecasts are based on information covering politics, economics, science and research gathered from around the world and updated daily by his staff of 32. This extensive intelligence network enables Cetron to provide government and industry with expertise in management techniques, technological forecasting, strategic planning, technology assessment, resource allocations, economic growth, marketing and the behavioral sciences.

A pioneer forecasting consultant and writer, Cetron is the co-author (with Tom O'Toole) of the popular *Encounters With the Future: A Forecast of Life Into the 21st Century.* His latest book, *Brave New Work,* a study of jobs in the future, will be published by McGraw-Hill this year. He also has been featured in numerous magazines and has appeared on every major television network.

Selected by People Magazine as "one of the 25 most interesting people in America," Cetron accurately predicted such events as the energy crisis, which he says will be "no more than a past epoch in human history in 2000," the revolution in Iran, the problems in Poland and the Soviet invasion of Afghanistan. Gazing toward the future, he prophesies that war will be waged with conventional weapons in central Europe and that Germany will be reunited afterwards.

Prior to forming his forecasting firm, Cetron completed a career in research and development planning and forecasting with the U.S. Navy, serving as head of planning for exploratory development for the Naval Material Command. During his work with the Navy, he was in charge of the design, development and implementation of the most comprehensive technological forecast in the United States.

Cetron earned a B.S. degree in industrial engineering from Pennsylvania State University, an M.S. degree in production management from Columbia University and a Ph.D. in research and development management at American University.

Hugh Sidey

Hugh Sidey, Time magazine's Washington (D.C.) contributing editor, will explore how architects contribute to American society when he speaks at the 1984 American Institute of Architects National Convention in Phoenix, May 5-9.

His address on Wednesday, May 9, will serve as an epilogue to a convention that will focus on the relationship between architects and their public and will feature presentations and panel discussions by well-known architects, developers, clients, critics and users.

Sidey will discuss the challenges facing today's architects as they prepare to meet future needs of America's public.

He is also expected to share his perceptions of the problems facing America's leadership in 1984, as well as his views on how they relate to the convention theme, "American Architecture and Its Public."

AIA CALENDAR OF EVENTS THROUGH AUGUST 1984

Apr. 26-27	AIA Architects in Industry Committee Meeting, Washington, D.C. For more information, call Sarah Markovitz at (202) 626-7377.
May 5-6	AIA Professional Development Committee Meeting, Phoenix. For more information, call Chip Levy at (202) 626-7458.
May 5-9	AIA National Convention, "Architecture and Its Public," Phoenix. For more information call Ketchie Brassel at (202) 626-7396.
May 17-20	AIA Historic Resources Committee Meeting, Des Moines. For more information, call Ravi Waldon at (202) 626-7429.
May 22-July 15	"Great Drawings from the Royal Institute of British Architects Drawings Collection," exhibit, The Octagon, Washington, D.C. For more information, call Susan Stein at (202) 638-3105.
May 23-24	AIA Architects in Education Committee Meeting, San Francisco. For more information, call Sarah Markovitz at (202) 626-7377.
June 3-7	AIA Architecture for Health Committee Meeting, Washington, D.C. For more information, call Mike Cohn at (202) 626-7366.
June 4-July 13	"American Architecture: Innovation and Tradition," exhibit, AIA Building, Washington, D.C. For more information call Jim Ellison at (202) 626-7347.
June 7-8	AIA Architects in Government Committee Meeting, Champaign/Urbana, Ill. For more information, call Sarah Markovitz at (202) 626-7377.
June 7-8	AIA Codes and Standards Committee Meeting, Washington, D.C. For more information, call Joel Vicars at (202) 626-7566.
June 15-16	AIA Interiors Committee Meeting, Aspen, Colo. For more information, call Ravi Waldon at (202) 626-7429.
June 18-19	Small-Firm Roundtable, "Staying Small Successfully," Washington, D.C. For more information, call Bill Hooper at (202) 626-7532.
June 18-20	AIA Architecture for Education Committee Meeting, Washington, D.C. For more information, call Mike Cohn at (202) 626-7366.
June 21-22	AIA Energy Committee Meeting, Washington, D.C. For more information, call Dave Bullen at (202) 626-7448.
June 21-22	Small-Firm Roundtable, "Staying Small Successfully," Kansas City, Mo. For more information, call Bill Hooper at (202) 626-7532.
June 22-23	AIA Housing Committee Meeting, with workshop, "Working Together – Public/Private Partnership," St. Louis. For more information, call Ravi Waldon at (202) 626-7429.
June 25-26	Small-Firm Roundtable, "Staying Small Successfully," San Francisco. For more information, call Bill Hooper at (202) 626-7532.
July 1-3	AIA Architecture for Justice Committee Meeting, Washington, D.C. For more information, call Mike Cohn at (202) 626-7366.
July 9-10	AIA Design Committee Meeting, "Architecture and Landscape and the Sequential Development of Saarinen's Work," Bloomfield Hills, Mich. For more information, call Ravi Waldon at (202) 626-7429.
Aug. 12	AIA Architecture for Health Committee Meeting, at the annual AHA convention, Denver. For more information, call Mike Cohn at (202) 626-7366.
Aug. 26-28	AIA Design Conference, "Five Buildings and Their Public," San Diego. For more information, call Ravi Waldon at (202) 626-7429.

Address Correction Requested

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