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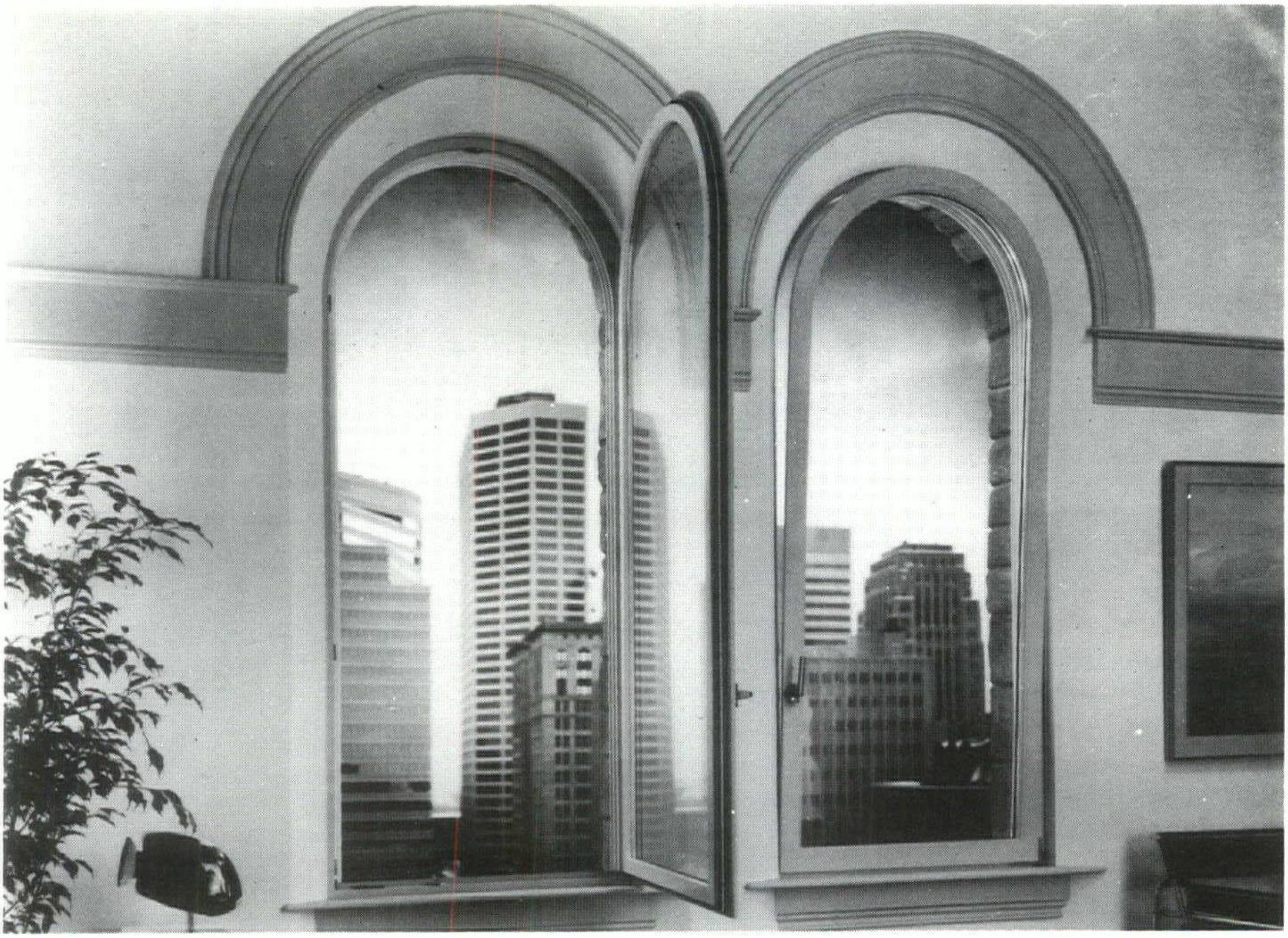

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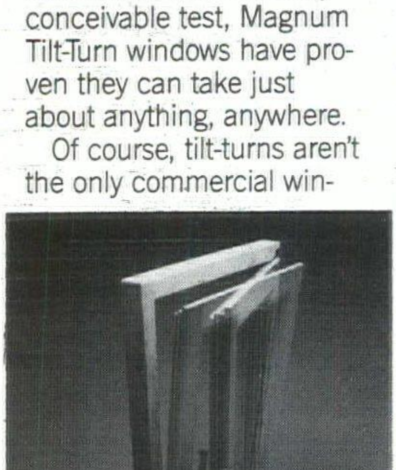

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The latest additions to the Department of Architecture bring with them a wide range of skills and experiences,

With the departure of Bob Beckley, Wojciech Lesnikowski, and several other senior faculty members from the architectural faculty of the School of Architecture and Urban Planning, we have had the opportunity to recruit a number of new professors to continue the tradition of excellence at UW-Milwaukee. While the loss of valued colleagues who have left for greater things — Deanships, Distinguished Professorships, Vice-Presidencies of major Chicago firms — is saddening, the welcoming of new faces provides a refreshing change to the faculty. The latest additions to the Department of Architecture bring with them a wide range of skills and experiences, and the work of five of them are showcased in this issue of Wisconsin Architect.

Tom Hubka, formerly a faculty member at the University of Washington and a private practitioner in Maine, is an expert on vernacular architecture, and his book "Big House, Little House, Back House, Barn" has been critically acclaimed nationally. He is currently researching farm buildings in the midwest. His article provides a discussion of issues associated with borrowing ideas from Wisconsin vernacular.

Nancy Hubbard holds a Ph.D. in architectural history, is a partner in a successful Chicago architectural firm, and is an expert on historic preservation. Her essay discusses the functional, aesthetic, historical, and symbolic significance of water towers.

Don Hanlon has come to the faculty from Texas Tech and has recently returned from China where he has been carrying out funded research into mosques. His article describes the Amin Hodja Mosque which he measured and drew during the summer of 1987.

Gil Snyder, formerly with Mitchell Giurgola, is our construction expert and has been investigating some construction techniques in Wisconsin. His presentation includes a discussion of construction details produced by students in his course "Art of Detailing". "From the Near Side of the Moon" by veteran faculty member Tony Schnarsky, AIA, describes the adventurous CAD studio activities leading to designs for habitation three meters under the Lunar crest.

We believe these authors and their articles are continuing evidence of the diversity of interest and expertise that has characterized the school since its founding in 1969.

Robert Greenstreet, Douglas Ryhn
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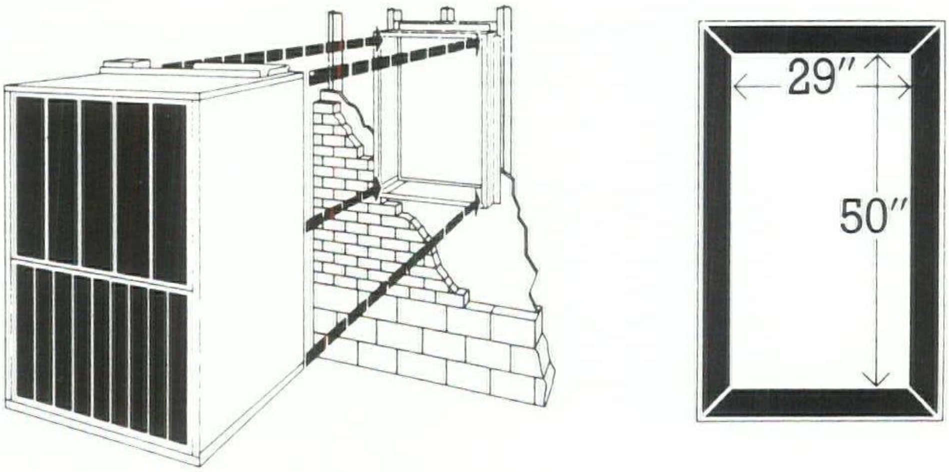

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The Amin Hodja Mosque

by Don Hanlon

An Innovative Hybrid Of Traditional Building Types

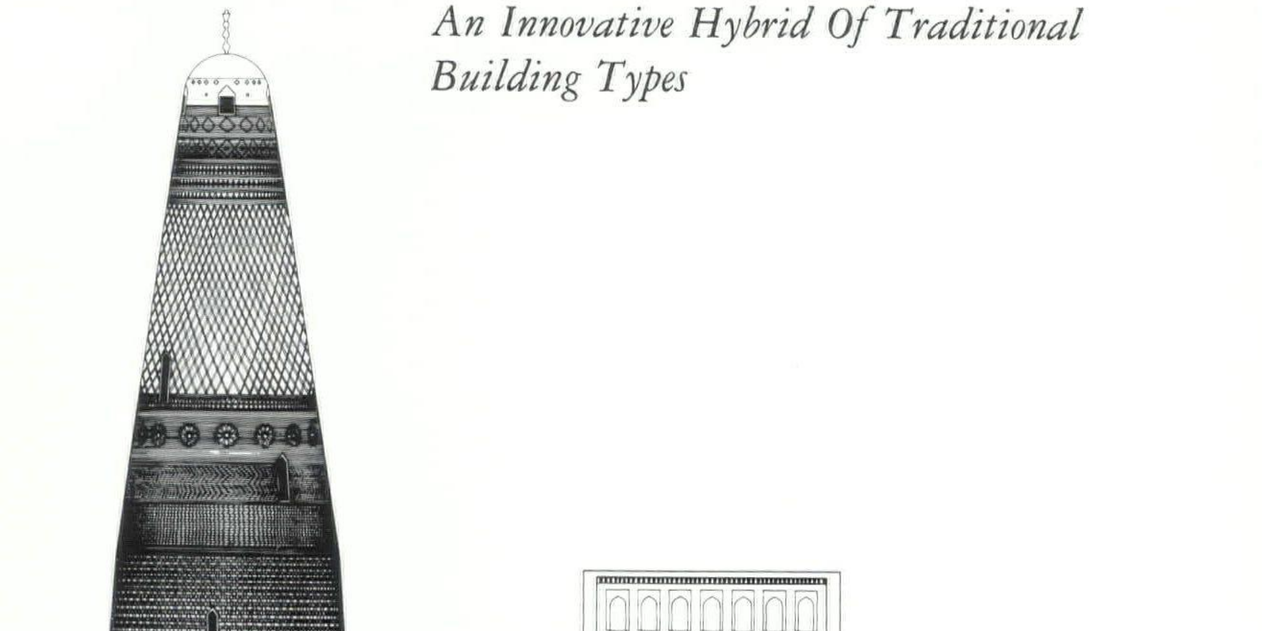


Figure 4 Amin Hodja Mosque, elevation and sections.

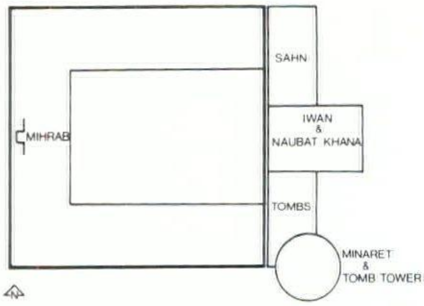


Figure 1 Amin Hodja Mosque, schematic plan.

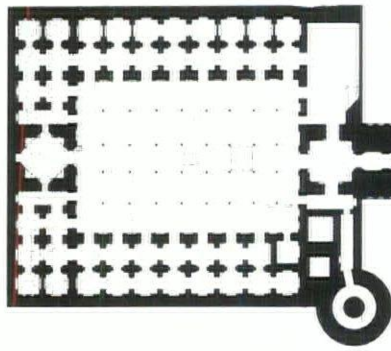


Figure 2 Amin Hodja Mosque, plan.

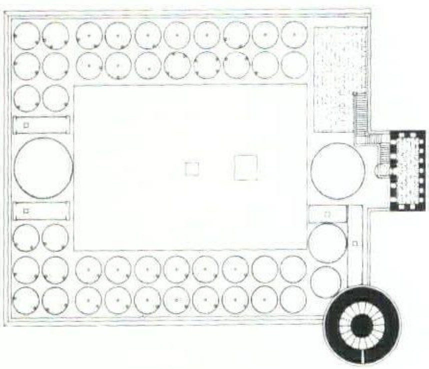


Figure 3 Amin Hodja Mosque, roof plan with naubat Khana.

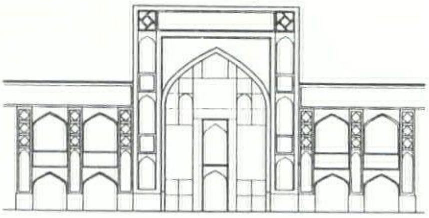
Much attention is given to taxonomies of traditional buildings, the comprehensive cataloguing of clearly defined building types. This is useful insofar as it provides a basis for comparison among cultures and societies. Since strong similarities may exist among buildings of a given function in a specific social and environmental setting over a long period of time, one can become satisfied that a particular architectural form is highly stable and not susceptible to easy change. Furthermore, rapid change, especially in the context of modern influences, is often considered to be the principal threat to traditional building types. The investigation recounted here seeks to demonstrate that rapid change in architectural form may take place in a traditional culture by means of combining hitherto separate building types to create hybrid forms. These new forms satisfy new functional requirements while maintaining deep roots in traditional culture; the new forms are uniquely dynamic architectural solutions but they also retain the essential visual information inherent in the original building types from which they are composed.

In the summer of 1987, the author and Yang Shen-min of the Department of Ethnology in the Central Institute of Nationalities, Beijing, surveyed several prominent buildings in the oasis of Turpan in the Xinjiang Uygur Autonomous Region of western China. The Uygur and other ethnic groups who still compose the majority population of the Region are predominantly of Islamic heritage. Though many small mosques serve the daily needs of the inhabitants of Turpan, one monumental structure dominates the oasis. It is the mosque built in 1776 A.D. by Amin Hodja in commemoration of his father. The Amin Hodja Mosque is an excellent example of a hybrid building type which unites characteristics of several building types found in Turkestani and Iranian architectural traditions.

The physical environment of Turpan is ideal for a heavy mud brick building technology. There is virtually no rainfall but a plentiful supply of underground water and sandy clay soil. Extreme seasonal variations in temperature require thick insulating walls. Wood is scarce. Though the oasis of Turpan is very remote from other major cultural centers, it has had extensive contact with other civilizations because of its strategic location along the trade route between the Levant, Transoxiana and China. Architecturally, the principal influences have come from Turkestan and Iran. Many strong similarities can be found between domestic as well as monumental architecture of Turpan and examples found from the Caspian Sea to the Persian Gulf.

The structure of the Amin Hodja Mosque is almost entirely of mud. The high perimeter walls are six to seven feet thick at their base and taper to less than a foot thick at their top. They consist of a combination of sun-baked bricks and solid mud laid in courses or lifts, each up to 30 inches in height. This is an ancient and common technique for construction of monumental mud walls. Excellent examples dating from the seventh century can be found throughout the ruins of Jiaohe, an abandoned city about eight miles from Turpan. It is also a very common building technique on the Iranian plateau as fully described by Beazley and Harverson (1982).

The Amin Hodja Mosque is generally organized into two main sections, each of which is in turn composed of several components. The first section, stretching across the entire east front, includes the entry structure, open courtyard, tombs and tower. The second, or western section, which is comprised of the main congregational space, peripheral cellular spaces and *qibla*, occupies the rear of the mosque and is square in plan (Figs. 1, 2, 3). The entire complex has only one



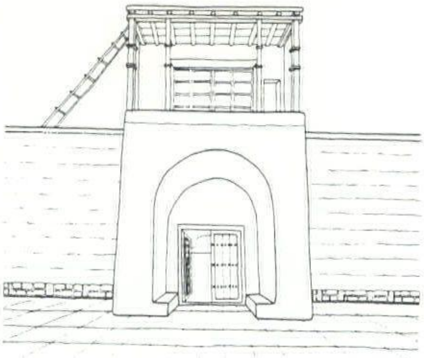


Figure 5, Left, Gawhar-Shad, Meshed; From Mosque, Ulya Vogt-Göknil (1975).

Figure 6, Right, House entrance with a naubat khana, *Logar Valley, Afghanistan. From* Traditional Architecture of Afghanistan *by S. Hallet and R. Samizay (1980).*

entrance, placed on the eastern facade midway between the northeastern corner of the perimeter wall and the center line of the tower. The tower visually absorbs the southeastern corner of the entrance facade, forcing the observer to complete the composition mentally. This dynamic symmetry, caused by a forceful penetration of one form into another, is a clear announcement at the outset of the general design approach carried out within the building (Fig. 4).

Concentrating first upon the eastern section of the mosque, one finds three major transformations of building types found in Turkestani and Iranian precedents. The entry portal is designed in accordance with the general pattern of an Iranian *iwan* (Fig. 5). As found in Iranian examples such as the Gawhar-Shad Mosque and the Riza Sanctuary in Meshed as well as the Shah Mosque in Isphahan, the *iwan* stands as a monumental, pointed arched gateway through a high rectangular screen wall, or *pishtaq* (Vogt-Göknil, 1975). The *iwan* is a common symbol in both Iranian painting and architecture for an entrance to Paradise. *Faradis* is the classical garden composition by which a space is bilaterally quartered by intersecting pathways between four *iwans* set in the garden wall (Rainer, R., 1977). The *iwan* form, however, is not restricted to mosques or imperial palace gardens. It is a common sight along the residential streets of Turpan as well as in villages and towns throughout Iran. An example depicted in a study of traditional Afghanistan architecture shows the entry *iwan* to a house in the Loger Valley (Hallet/Samizay, 1980). In this case, atop the *iwan* stands a separate wooden structure, a *naubat khana,* used as a reception room for guests (Fig. 6). The *naubat khana* is often found as a clearly separate structure on top of *iwans* of Persian mosques (Pope, A. 1965). Similarly, above the entry of the Amin Hodja Mosque, one finds a room also dedicated to use as a reception space. In this case, however, the *naubat khana* is integrated into the geometry of the *pishtaq.* The result is two-fold. First, the integration of the two forms forces the *iwan* to become a strong three-dimensional prism, jutting out from the perimeter wall into the forecourt. It thus assumes the character of an autonomous building. Second, the windows of the *naubat khana* are kept on the same plane as the blind niches flanking the central arch while that arch becomes a vault by virtue of its considerable depth. The juxtaposition of the inverted, rectangular U shape of the *iwan* perimeter with the deep curvilinear vault over the door introduces a theme of tension between mass and space. After one penetrates deeply into the mosque interior it becomes clear that the organization on the *iwan* facade of cells in an inverted U-shaped frame around an expansive central volume is a graphic representation of the plan of the mosque interior. The *iwan* mimics, in elevation, the plan of the mosque as yet hidden from view. In this case the alteration of the classical Iranian *iwan* by means of incorporation of another building form produces a hybrid type that functions as an iconographic prelude to the compositional theme of the structure — the opposition of mass and space. As we will see this opposition is dramatized as both a paradox and its resolution within the mosque beyond the *iwan;* in the *iwan* one finds both aspects of the opposition in an ambivalent relation.

The *iwan,* now a substantial three-dimensional object, extends over 50 feet into the interior of the mosque, to include a domed space and to bisect the entire eastern section (Fig. 7). To the south of the *iwan* one finds a precinct dominated by sealed tombs and the huge brick tower. This southern precinct is characterized by great mass; only a few slivers of light are allowed to penetrate the darkness encapsulated by thick earthen walls.

From the *iwan* and its interior domed space, one reaches the base of the tower through a dimly lit passageway past two sealed tomb chambers. A stair rises in almost total darkness between the central columnar core (about 10 feet in diameter at its base) and the outer brick shell of the tower. At its apex is a small circular, hemispherically domed chamber with small windows oriented to the cardinal directions. The total height is approximately 115 feet; the stair is about five feet wide and the outer shell varies in thickness from about eight feet at its base to one foot at the top. The stair is intermittently lit by narrow slit windows in the shell.

The tower is a unique example of Islamic architecture. Its most unusual feature is its proportion of diameter to height. Though its position in association with the mosque and the accessibility it affords to the top suggest its use as a minaret, it lacks the slender lightness of design almost universally characteristic of minarets. The Kalayan Minaret in

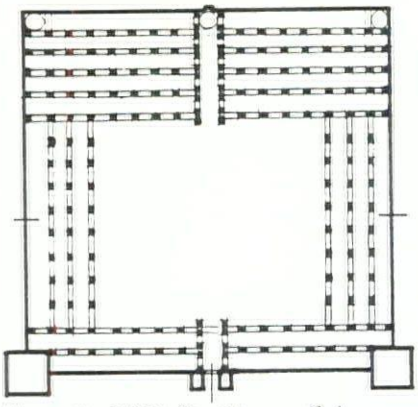


Figure 8 El-Hakim Mosque, Cairo.

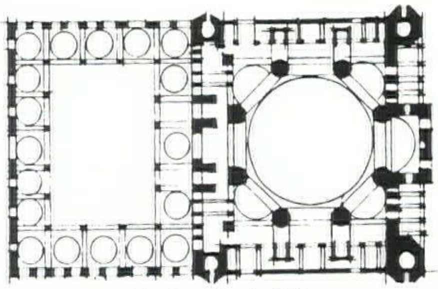


Figure 9 Selimiye Cami, Edirne.

Bukhara, a Seljuk work of the 12th century is probably the example closest in similarity with the Amin Hodja tower. The massiveness of the Amin Hodja tower, however, suggests another function — that of a commemorative tomb tower, a building type that is found throughout Iran. Because of the gravity of the subject, tomb towers are generally far more massive than minarets though their surface ornament may be similar. The Amin Hodja tower, in fact, stands above two tombs which are incorporated within the mosque. The unification of two quite different functions — minaret and tomb tower — results in a very unusual form, one somewhat heavy for a minaret and rather light for a tomb tower. The visual tension between the two not entirely compatible functional forms is mediated by use of a highly articulated and energetic surface ornament executed in burnt brick without applied color. The technique of banded brick patterns was used extensively from the ninth century in both minarets and tomb towers from Bukhara and Damghan in Transoxiana to Shiraz near the Persian Gulf. Hoag (1977) suggests that the technique probably originated in the pre-Seljuk dynasties of the Samanids and Ghaznavids.

Though the tower commands the composition of the mosque, particularly from afar, it operates within as one of a pair of architectural components that dramatize the paradoxical relationship between mass and space, light and dark. The other component lies on the northern side of the *iwan*. It is a rectangular courtyard open to the sky and thus flooded with light throughout the day. Surrounded by high walls, its proportions of width to depth to length are approximately 1:1:2. The court is the vestige of a major re-definition of a typical mosque plan. The open courtyard or *sahn* of a mosque usually occupies a central position from which one moves easily into peripheral congregational spaces under cover in the case of most Arabic mosques (Fig. 8) or further on axis into a centralized domed space in Ottoman examples (Fig. 9). As we will see, the congregational function of peripheral spaces in the Amin Hodja Mosque has been forced to re-locate due to the introduction of new functions into the traditional building type. The *sahn*, too, was re-located to accommodate the requirements for a new congregational space. One finds the once major open courtyard now consigned to what appears to be a minor position in the northeast corner. But when one understands the whole organization of the mosque as essentially two semi-independent structures (i.e. the eastern section with *iwan*, tower and *sahn*, the western section with cells around a central interior space) the significance of the *sahn's* position in conjunction with the tower becomes important (Fig. 1). The only place one can see the tower when within the mosque is from the *sahn*. The central compositional theme of the mosque introduced in the *iwan*, that is the contest between mass and space, is brought to its most extreme contradiction in the architectural forms that flank the *iwan* — the massive, somber tower to the south and the open, airy *sahn* to the north. The unresolved dichotomy represented by the tower and the *sahn* is an essential precondition for the subsequent experience within the main body of the mosque.

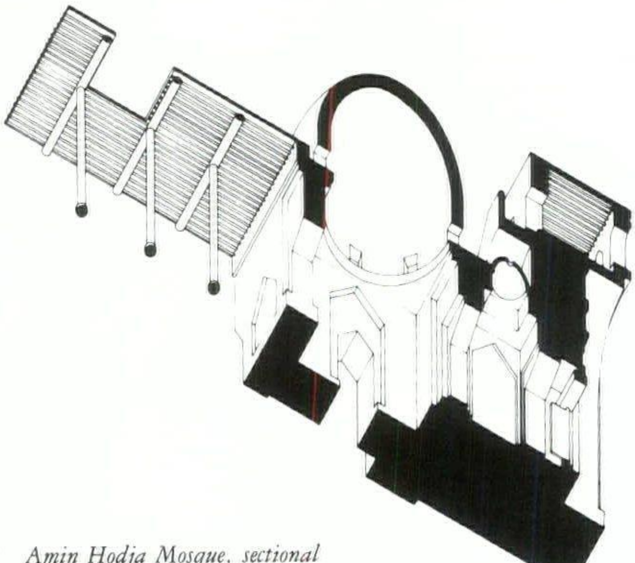


Figure 7 Amin Hodja Mosque, sectional axonometric of the iwan.

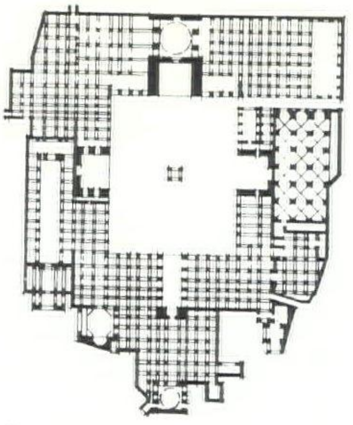


Figure 10 Friday Mosque, Isphahan.

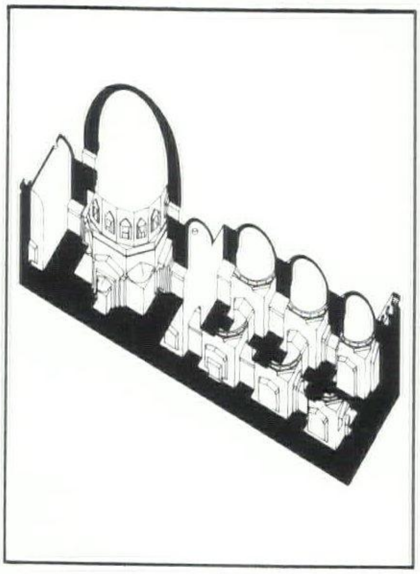
Whereas there is only one entrance to the entire mosque complex from the exterior, one can enter the large central congregational space of the mosque from either the directions of the tower, the *iwan* or the *sahn*. This space is rectangular and occupies the central square plus what would otherwise be the fourth side of the deep perimeter wall composed of two rows of cubic cells. The geometry of the western section of the mosque is an important clue to the mosque's relation to Iranian and Turkic precedents. The image of *Faradis* as a perfectly quartered precinct is carried out in most Iranian mosques as a cruciform plan (Fig. 10). Four *iwans* are typically placed at the centers of four walls which contain a square or nearly square *sahn* (Vogt-Göknil, 1975). If one were to imagine the continuation of two rows of cells across the eastern side of the Amin Hodja Mosque, to thereby occupy a portion of the central space, the result would be a bilaterally symmetrical plan with a square *sahn* in the center. The modified plan would closely resemble the archetypal plan of Paradise.

The graphic representation on the elevation of the *iwan* is now seen in plan within the western section of the mosque. Two rows of cubic cells surround a central space similar to the inverted U of cells over the main portal vault. The central space, measuring approximately 70 x 104 feet is sheltered by a flat roof. The roof consists of a thin layer of mud (two inches) over woven reed mats which are in turn supported by wooden purlins framed into wooden beams running north-south. The beams are supported on peeled poplar columns rising from small stone bases set into the brick tile floor. The roof construction is identical to that used for the most utilitarian buildings of the region. Two square openings admit daylight and exhaust warm air through the roof. Whereas the central space seems expansive and light, the surrounding cells seem to have been carved out of an immensely thick wall. While light is nearly uniform and plentiful in the central space, it is admitted sparingly in the cells as narrow beams which pierce the gloom from small oculi in the hemispherical domes overhead. Though in high contrast to one another, the system of peripheral cells and the central space form a unity by virtue of the insistent geometry and rhythm of the wall that divides them and the roof that covers them. The theme of opposition in mass and space that seems ambiguous in the *iwan* and in stark contrast between the *sahn* and tower appears appropriately resolved in the congregational section of the mosque.

The arrangement of cells follows a pattern of pairs — one interior cell, accessible from the central space, leads to a second more private cell against the mosque's exterior wall. The pair thus provides a combination of public and private spaces (Fig. 11). Lateral connections between rooms are controlled by either leaving the low doorways open or partially filling them in to create two shallow niches on each side of the partition. It is a simple, flexible system by which various combinations of cells can be easily formed for different functions. The cells are square in plan and cubic in volume. The square plan is truncated by squinches to form an octagon and then is truncated further into a sixteen sided figure. This supports a hemispherical dome. *Muqarnas* and pendentives which were developed to a high art in other Islamic architectural traditions were not used in the Amin Hodja Mosque.

The plan of the western section of the building, though clearly related geometrically to Islamic tradition, is nevertheless unusual for a mosque. The hypostyle hall, normally found at the perimeter of Arabic and Iranian mosques, is here found at the center. The Amin Hodja plan resembles more that of a typical *madrasa* or *caravanserai* of Iran than it does a typical mosque. A *madrasa* is a theological school which may provide lodgings, a prayer hall and classrooms.

Figure 11 Amin Hodja Mosque, sectional axonometric of the qibla *with peripheral cells.*



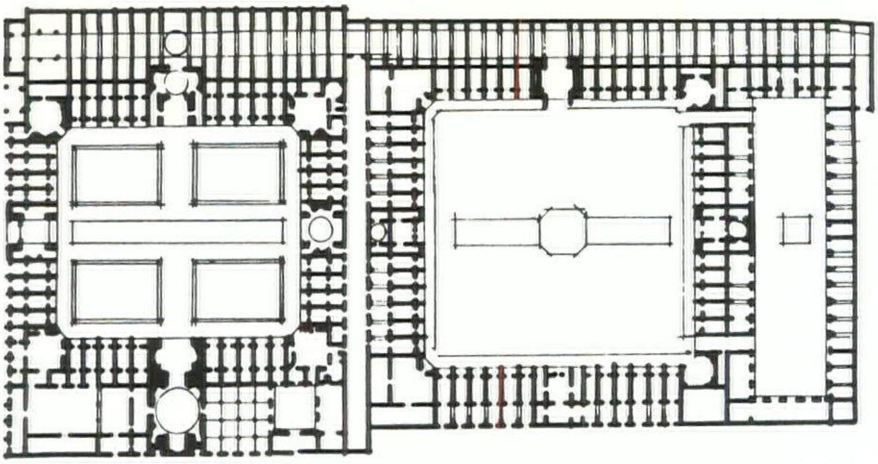


Figure 12 Madrasa *and* caravanserai *of Shah Sultan Husain, Isphahan.*

A *caravanserai* is a fortified hostel along a trade route. The most obvious features of a *caravanserai* from the exterior are its high walls and a single, prominent gate. The Amin Hodja Mosque, too, follows this design principle. Both building types are characterized in plan by peripheral cells on three or four sides, usually in pairs, around a central courtyard. Iranian examples are generally quartered internally in a Greek-cross fashion. *Madrasas* and *caravanserais* are often closely associated; such is the case in Isphahan where the two dedicated to Shah Sultan Husain, built in 1706, are directly adjacent and connected (Fig. 12). As with the tower, the plan of the western section unites two building types, a *madrasa/caravanserai* hybrid and a congregational mosque, to form a new type which is more closely suited perhaps to the uses, economy and climate for which it was intended.

From the perspective of contemporary architectural design in traditional societies, the Amin Hodja Mosque provides a valuable model. Traditional building types can be transformed and united very successfully to produce a meaningful hybrid form without losing their original typological significance. In the case of the Amin Hodja Mosque, unique circumstances of time and place required the unity in a single building of symbols and functions normally assigned to distinctly different building types. Not only did this process produce a new useful type but while the vitality of original forms was retained, entirely novel opportunities for architectural expression emerged.

On occasion, a typological fusion may require a drastic alteration of a traditional form but with highly beneficial results. The *sahn* in the Amin Hodja Mosque, for example, is forced out of its position as the spatial centerpiece into what appears at first to be a minor role. But in its simplicity and directness, the transformed *sahn* operates in conjunction with the tower to produce an eloquent expression of the paradoxical theme of the mosque's composition. The tower also exists somewhere between recognizable traditional forms; it is neither a slender, soaring minaret nor a somber funerary monument. It is both and neither. Its highly articulated and densely patterned brick skin seems to hold it only momentarily between the hope of one form and the resignation of the other. Thus it seems that the tension inherent in the dichotomy between mass and space, light and dark which is played out ambiguously in the *iwan*, confrontationally between the tower and *sahn* and to a resolution in the congregational space is an architectural expression of the emotional and spiritual condition under which established forms are combined to create new form.

The Amin Hodja Mosque demonstrates above all that traditional building types are not necessarily sacrosanct; their thoughtful and caring transformation, distortion and combination can produce highly expressive as well as functionally efficient new types. The new types can perpetuate the essential qualities of a cultural tradition while logically responding to contemporary needs and accurately reflecting contemporary aspirations.

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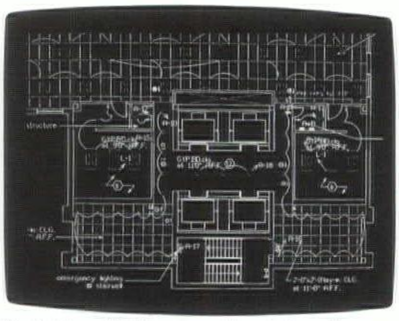

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From The Near Side of The Moon

by Anthony J. Schnarsky, AIA

This year's CAD based studio was one of the most adventurous in the School's short history for many reasons. The most obvious was that this studio worked in conjunction with one of Wisconsin's few NASA contractors, Astronautic's Corporation, on Lunar Base Habitation for the year 2025. How this studio project started, how it progressed and what educational values were engendered is the topic of this short report to Wisconsin's architects. Carl Patton, Dean of SARUP, frequently invites State companies to the School to discuss joint venture research and development possibilities. Such was the case when he organized a meeting with SARUP faculty and the managers of Astronautic's Corporation, interested in NASA research. A wide range of relationships were discussed at that meeting in Spring 1987, mostly in the area of environmental behavior studies applications to future long-duration space structures. It was at this meeting that I enthusiastically volunteered my next scheduled CAD studio to study the Lunar Base habitation problems proposed by the Astronautic's visitors.

It was soon after that I developed cold feet. They remained all that warm summer. What had I gotten myself and my students into this time? And would any CAD qualified student even register for the course?

Well, ten brave souls did join the studio. Half the students in the class were from more than 120 degrees longitude from Wisconsin. And half were not CAD literate. Men and women from Nigeria, Malaysia, France, Iowa and Wisconsin joined for a strenuous semester's studio of designing habitation three meters under the Lunar crust.

After initial introduction to more than 700 pages of NASA research, we found ourselves with an overwhelming project. The architecture student with all our terrestrial experience was now introduced to a context where no preconceptions could work. We had to "listen" to the client.

The students never openly questioned the relevance of working on "space architecture," yet the teacher did. I had to establish rationale for the training in architectural skills and integrate this with my goals of CAD education.

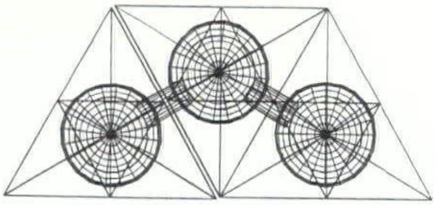
The course objectives unfolded before us:

1 It gave practice of working on a large systems-based project involving many disciplines.

2 It gave practice in working with an enormous database including researched programmatic information and student developed CAD library elements.

UWM School of Architecture's CAD lab is a valuable resource in the State. Its educational goals are to introduce information science theory to the practice of architecture. Its research purpose is being used on public and private sector developmental projects that lead to prototypical applications of CAD.

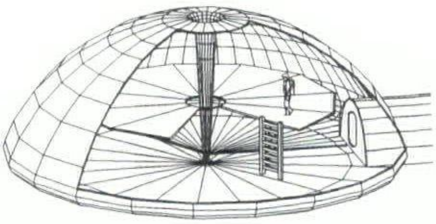
With a typical studio mix of undergraduate students with computer literacy and CAD experience and graduate students from many different cultural backgrounds, the teacher must operate in a setting not unlike the little one room school house on the midwestern prairie. Another educational goal, on top of all this, was to demonstrate that CAD can facilitate design. Too often practitioners relegate CAD technology to computer-aided-drafting.



3 It gave experience with engineering and science derived construction and with interior systems.

4 It gave planning practice on a structure that must grow over time with components that must have flexibility, redundancy and adaptability.

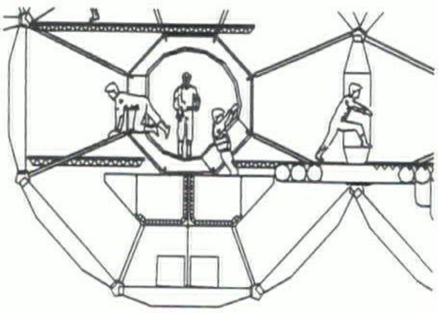
5 It gave a unique, debasing experience of working on a project where the architect is not the lead discipline.



This studio's methodology did not develop easily. The early period was very unsteady. Fortunately, we received many supportive visitors. The client was represented by Mark Jacobs and Tom Crabb from Astronautics. The students made a total of three formal presentations mostly focused toward Astronautic's as the client. These two gentlemen conveyed a stereotype breaking introduction to engineering discipline by being communicative, encouraging and wholistic individuals.

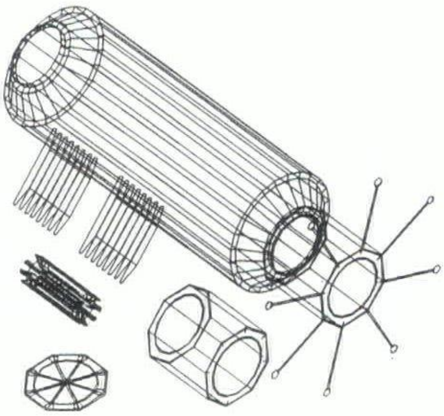
A consultant from the University of Houston helped establish a meaningful set of goals for a beginning class. The inclusion of architectural methodology into NASA's long duration projects requires a national network of centers of study.

A key visitor to the studio was Larry Bell of Bell and Trotti Inc. and Sasakawa International Center for Extraterrestrial Structures. Other critics included Claudio Veliz of Claudio Veliz Architect, New York (UWM graduate) and John Clark, graphic aircraft and space artist.

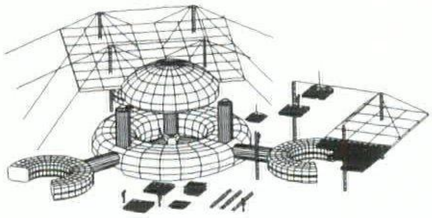


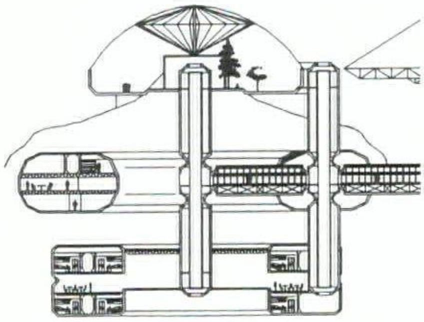
There were three key presentation events in the semester. The first was the Astronautic's staff presentation in Madison, a very warm and encouraging preliminary planning exercise. The second, and most formidable, was to the Astronautics representatives, the Dean, Larry Bell, Claudio Veliz and other invited UWM faculty and research staff. The criticism that entire day was incisive, and to any outside viewer appeared to waste the students with technological reality. Four weeks still remained in this CAD studio.

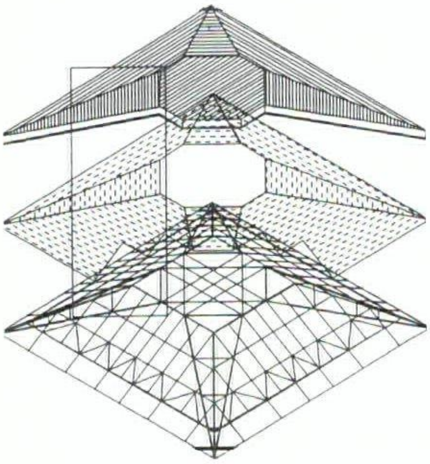
We use to call it the "painless crit." Because a highly resolved CAD plot presented for a pin-up appears so finished, criticism leading to changes could be accomplished without the work associated with "going back to the drawing board."



During the last month of the studio each student completely regenerated a solution based upon the excellent criticism. Lesson one of why computers are important was established. CAD facilitates design changes and refinement. Lesson two was also learned — in an architecture based upon systems, CAD used with a modular approach can produce full size replication of physical construction components. In the last month all the students, some now veterans of CAD, some novices, completely were absorbed with designing using CAD. They hardly noticed they could have not done what they were managing without this technology.







As you examine the drawings provided, you will probably have the reaction that this work is a cold and sterile product of machine like thinking. Please bear two things in mind. The students struggled to humanize and consider the stressful conditions of living for up to one year in an environment not unlike an atomic submarine. Second, the physical forces of vacuum, radiation, fire safety, power supply, transporability and design weight were unrelenting.

Our final color CAD presentation gave a moving image of how each Lunar Base would grow and specific 3D representation of how the habitat would appear.

The final presentation was, in a sense, just a beginning. The work of this class was presented in a very untypical way. The UWM Press was there; the Dean, research directors, Astronautic's representatives, friends, curiosity seekers were all presented to live and in color computer generated images. Each student showed the growth of their base from year 2000 to its final stages in 2025. Construction sequences were shown in 3D. Exteriors and interiors were portrayed in perspective. The typical presentation had about twenty-five images that were induced by a script file while the student made an oral presentation. More impressive, the work of these students was merged electronically into an eighty page file that was published by the Center for Architecture and Urban Planning Research. The studio was featured in the "Good Morning" (green) section of the Milwaukee Sentinel. One of the students has been invited to study at the Sasakawa International Center. Another student, Ed Cordes, who edited the publication *Space Architecture: Lunar Scenarios* has made several NASA attended conference presentations.

What I found most interesting is, while I worried much about the relevance of this topic, how the students rallied to work as an international team on something bigger than they. This unique studio with all its technical gadgets had a very human dimension that I never foresaw.

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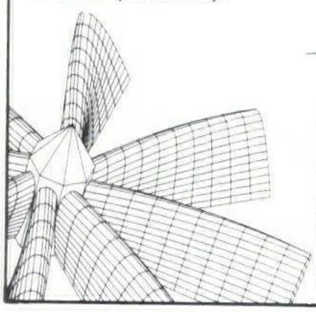

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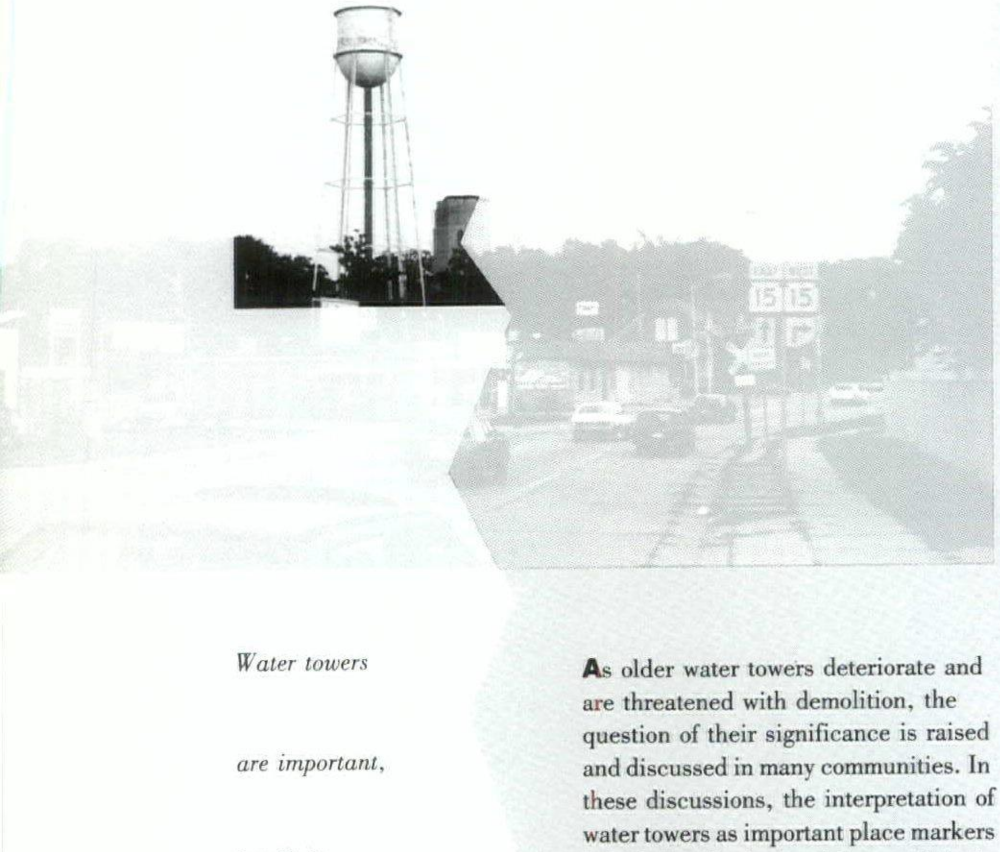
MARKERS ON THE LAND

by Nancy J. Hubbard



Water towers are important, but little appreciated, structures in the American landscape.

As older water towers deteriorate and are threatened with demolition, the question of their significance is raised and discussed in many communities. In these discussions, the interpretation of water towers as important place markers in both the physical and the psychological landscape of a community will be of great concern. The issue of dealing with the significance of such structures is part of an increasingly important development in architectural history and preservation planning to focus on the simple structure rather than on the famous architect, on vernacular rather than on high or elite style buildings, on meaningful patterns in the built environment rather than on the specifics or minutiae of history.

An interpretation of water towers has four related, but distinct, approaches: functional, aesthetic, historical, and symbolic. The functional approach deals with the technological development of the water tower form, material, and capacity, as well as the purposes for which water storage was required. Provision for water storage has been known since antiquity, primarily in the form of cisterns or ground-level reservoirs. The requirements of constant supply, emergency reserves, and lack of contamination have remained unchanged since antiquity as well. However, with the population increases and growing needs of industry in the late 18th and early 19th centuries, existing water supply technology proved inadequate. By the mid-19th century, new techniques of water supply, storage, and purification had come into use to meet the new demands on water service. The elevated water storage tank, commonly known as the water tower, was an essential part of this new technology.

Elevated storage is provided in two basic forms, the standpipe and the tank-tower structure. The cylindrical, uniform diameter standpipe, with a much greater height than width, is designed to regulate pressure between a pumping station and a reservoir, and to provide a reserve water supply for fire protection. The tank-tower structure serves the same functions as a standpipe while accommodating a greater storage capacity. Often the two terms are used interchangeably, as with the Chicago Water Tower (1869) and the North Point Water Tower in Milwaukee (1874) which were standpipes rather than tank-tower structures. The limited capacity of standpipes as well as structural problems with buckling of empty structures due to wind pressure and with bursting joints in filled pipes lead to the abandonment of this form in the late 19th

century.[1] Often both standpipes and tank-tower structures were enclosed in metal or masonry structures to prevent freezing during winter and to create a more attractive appearance, as seen in the original masonry tower at Beloit and in the Western Springs, Illinois water tower.[2]

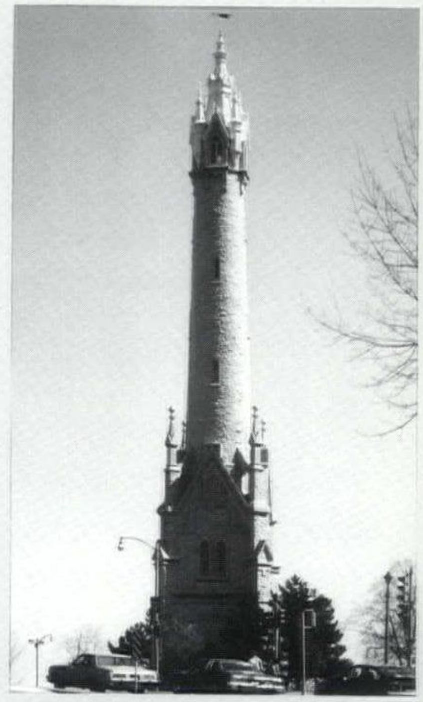
As the need for larger storage capacities developed with population and business growth, as technology allowed for larger metal plates and stronger joint connections, and as electricity came to be used to prevent freezing,[3] the earlier masonry enclosures were replaced with exposed metal and concrete tanks.[4] By the 1920's and 1930's, the placement of water storage facilities in residential areas necessitated a more attractive appearance than that of the exposed tank structure, and brick and concrete enclosures were reintroduced, as seen in the Lake Tower in Milwaukee (1938).[5]

As objects which dominate the surrounding landscape and to which stylistic details and decorative ornament have been applied, the appearance of water towers is of interest. The elaborate detailing of the North Point Water Tower and the unique roof structure of the Western Springs Water Tower were derived from popular 19th century styles and allowed the structures to relate harmoniously with their surroundings.

In other words, the simple water tower is an aesthetic as well as a functional object; however, functional requirements and aesthetic appeal have not often been compatible interests in water tower design. As towers became more technologically sophisticated to meet increased water storage demands, the level of aesthetic concern invariably declined. Within the last twenty years, tower designers have reversed this decline as communities have become more demanding of government officials to provide more aesthetically pleasing public service facilities. Some tower designs and decorations are highly innovative: a "peachoid" shaped tower in Gaffney, South Carolina celebrates the peach-growing activities of the area; the rosebud-painted tower of Rosemont, Illinois, reinforces community identity; and the bright orange sphere of the Circleville, Ohio tower advertises the annual pumpkin festival. The ultimate in tower decoration may be the Heather Ridge tower in Gurnee, Illinois, which is painted sky blue with illusionistic clouds - decoration denying the existence of the object being decorated.

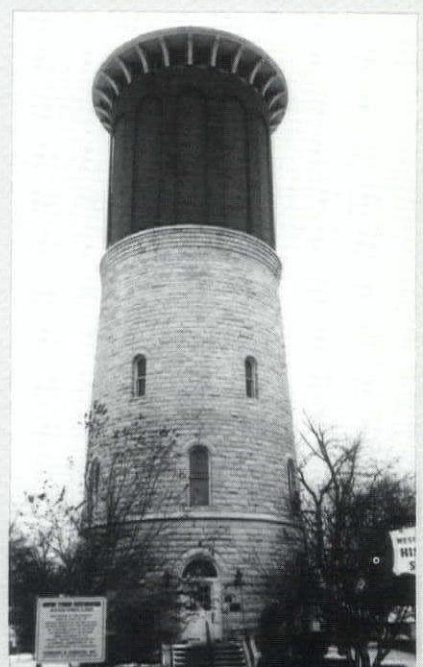
Historically, water towers are vertical markers in the arbitrary horizontality of the grid system. Traditionally, communities had developed at the source of water supply, such as rivers, lakes, and springs - nature determining location. In the grid system, roads, intersections, and boundaries conformed to a geometry imposed on the landscape - man determining location. Often, this pattern of settlement did not correspond to surface water supplies. Tapping underground water with wells provided a solution; however, wells gave no assurance of reserve supply. Water storage reservoirs, underground, ground-level, and elevated, provided such assurance of a stable reserve. On the flat land of the Midwest, the elevated tank became the standard storage form.

The elevated tank not only provided the growing community with a steady reserve water supply for domestic and industrial uses, but with the reserves and pressure through gravity flow for fire protection as well. Communities without an adequate water supply system were often devastated by fire. Such communities were unable to maintain and attract new businesses without provisions for fire protection; by the 1880's,



Milwaukee, WI, North Point Water Tower, 1874

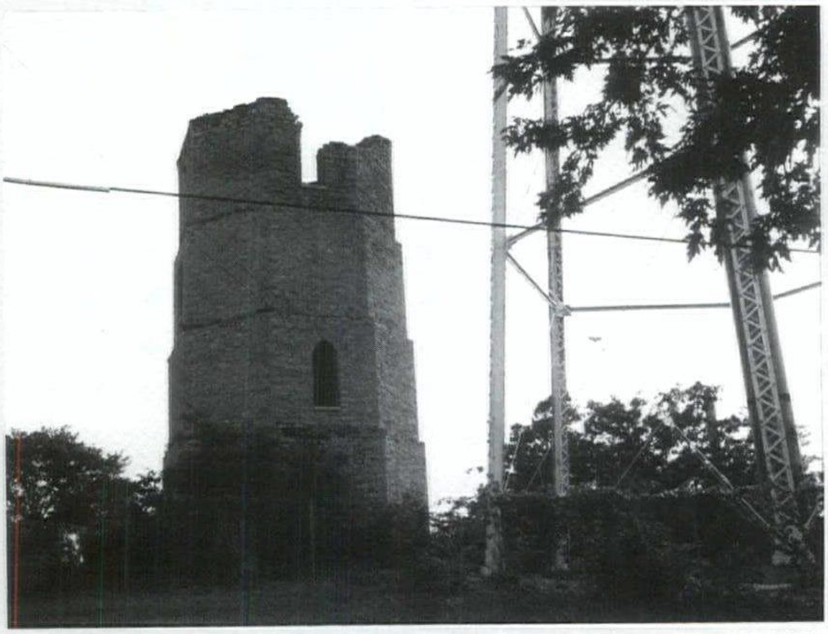
Western Spring, IL, Water Tower, 1892



insurance companies refused to cover businesses located in towns with insufficient water reserves for fire safety. From the early, small wooden tanks to the first metal tanks on to the huge spheroid tanks of today, the water tower represented the growth of a community, with each successive tank enlargement marking a greater demand for water by an increased population and more business. In this way, water towers often became symbols of the prosperity of towns.

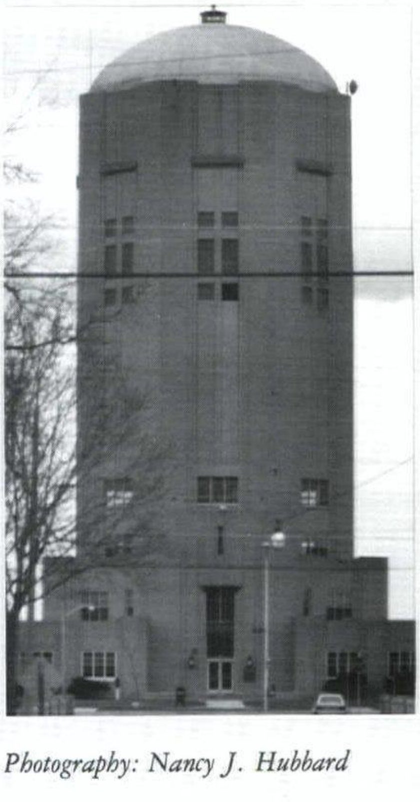
Historically, the water tower marked the transition from an earlier, less progressive period to a more developed, sophisticated era in community growth: the tower was a tangible sign that the community had passed from the status of a settlement to that of a village, or from a village to a town. The water tower became a symbol of the hopes of the community; with success, the tower marked the beginning of a new prosperity, with failure, the tower marked the end of expectations. Some communities, such as Beloit, kept both the old and the new, the more modern metal tower standing next to the ruins of the earlier stone tower. Functionally, the new tower was located on the site to facilitate connection to the water main, but, functionally, there was no reason to keep the remains of the old stone tower. However, the old tower represented a different aesthetic approach and a different historical period, and those differences had transformed it into a symbol for the community.

The symbolic importance of a water tower as the focus of a community's life is based on its serviceability (function), its appearance (aesthetic appeal), and its use (history). A water tower is a readily understandable, readable structure, requiring no specialized knowledge to appreciate. Often, the water tower is that necessary sign of reassurance of a community's continued life from the past to the present and into the future. Perhaps it is time to take another look at those too familiar, unappreciated structures in our communities and see them as markers, not just of places and distances, but of time, in the landscape.



Beloit, WI, Stone base of water tower, late 1880's

Milwaukee, WI, Lake Tower, 1938



Photography: Nancy J. Hubbard

1. John Goodell, *Water-Works for Small Cities and Towns*, Engineering Record, New York, 1899, p. 235.
2. Goodell, *Water-Works*, pp. 240-43.
3. Goodell, *Water-Works*, p. 275.
4. Metal tank-tower design, Laredo, Texas: Goodell, *Water-Works*, p. 246. Metal tank-tower design, Pittsburgh-Des Moines Steel Co. Catalog, 1914: Alfred Douglas Flinn, Robert Spurr Weston, and Clinton Lathrop Bogert, *Waterworks Handbook of Design, Construction and Operation*, McGraw-Hill, New York, 1927, p. 565. Reinforced concrete tank-tower design, Middleborough, Massachusetts, 1915: Flinn, Weston, and Bogert, *Handbook*, p. 557.
5. Chicago Bridge and Iron Company, Sales Brochure, n.d., Collection of the Highland Park (Illinois) Preservation Commission.

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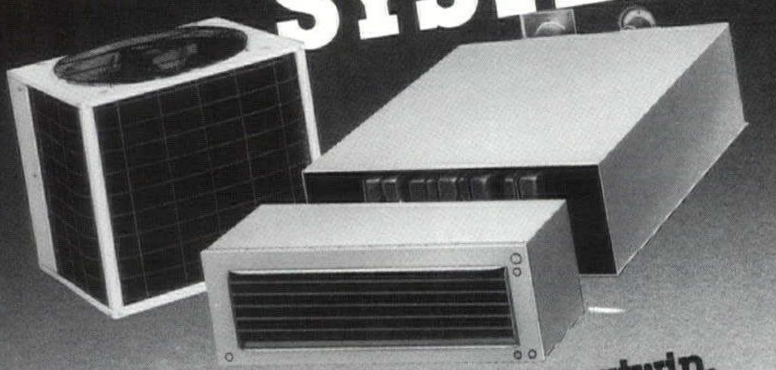

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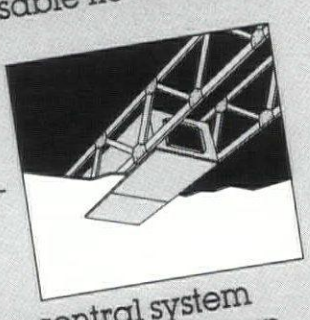

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MAKING THE CONNECTION

The Art of Tectonic Detailing

by Gil Snyder

Men are admitted into heaven not because they have curbed and govern'd their Passions, or have no Passions, but because they have cultivated their Understandings.[1]

William Blake

Writing for Nicholas V in 1452 in his seminal work on Renaissance architecture, *De Re Aedificatoria,* Alberti defined beauty as "a Harmony of all parts, in whatsoever subject it appears, fitted together with such proportion and connection that nothing could be added, diminished, or altered but for the worse".[2] This notion of congruity, or *concinnitas,* derived for Renaissance aesthetic thought, from the immutable law of nature. The problem, of course, was how nature and thus beauty, could best be reflected in architecture.

In following the lessons of the Greeks, Renaissance aesthetic theory found beauty through the "imitation"[3] of nature. This worked fine for painting and sculpture, but not very well for architecture where functional and construction considerations interfered with direct imitation. Alberti's solution to this intellectual paradox was declaring the architect's goal to be "symbolic"[4] representation of nature. This formulation defined Renaissance aesthetic theory and helped set the stage for the science of building over the next five centuries.

An important implication of this "symbolic" aspect of building theory is that the achievement of form comes through the discovery and articulation of its parts.[5] This contrasts with many interpretations of modern architecture[6] which describe building as imposed form that derives order and meaning from constraining forces external to context and visual tradition. This imposed form is most often derived from the rationalization of construction assembly, an extremely important act in and of itself, which seeks efficient resolution of technical problems. Difficulty arises, however, when this rationalization of instrumentality is accepted as literal design intent without consideration for tectonic development and the "logic of symbolic forms".[7] Architectonics rely on the development of a structure of thought which allows the resolution of material, construction, design and meaning in the act of building. "It is more like the *concinnites* of Alberti, a gentle correspondance of answering parts, a harmony which is perceived because we come to see one feature of a building as providing an adequate visual reason for another feature, and it is only then that we can have any experience of the unity and coherence of the whole."[8]

The whole of a building, it may therefore be argued, is predicated on the development and articulation of its parts. These details constitute the construction of the building and transform literal technological solutions into understandable tectonic symbols. Operating on the assumption that building design and technology coalesce through the study of these parts, seven "generic" tectonic conditions[9] may be derived which are present in all buildings. They are: (a) grade conditions, (b) spandrel conditions, (c) eave/parapet conditions, (d) corner/end conditions, (e) window/glazing assemblies, (f) main entrance conditions, (g) special features/main stair. The description of these conditions becomes particularly important in discussions about construction detailing and its relationship to the design process. Any resolution of technical problems related to building should occur within these categories to create a framework of visual order and coherence. Through thoughtful examination of these generic conditions, a construction detailing strategy and design vocabulary can be developed which is derived both from the technical and the symbolic requirements of building. As a model and demonstration for use of these categories in the design process, students at the University of Wisconsin-Milwaukee[10] have explored the architec-

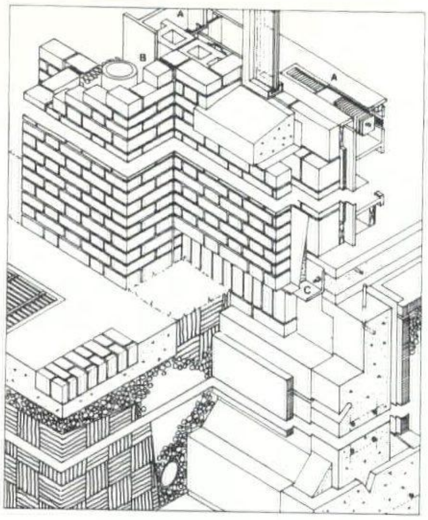


Figure 1

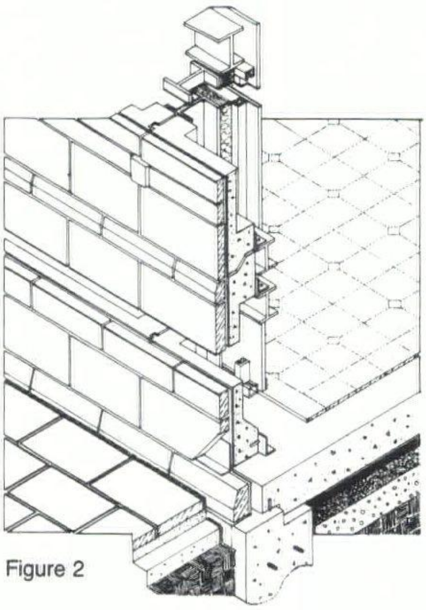


Figure 2

tonic implications present in these parts. Their investigations have focused primarily on the grade condition, spandrel/end/corner condition, and eave/parapet condition.

Grade Condition

How a building meets the ground is a critical aspect in any design solution. It is also one that raises several significant technical issues when the building "connects" to its site. Both figure 1 and 2 treat the horizontal ground plane immediately adjacent to the building and the vertical building enclosure system as part of the same solution, analogous to a flooring material meeting its baseboard. Both solutions acknowledge the intersection of vertical and horizontal with similar intent, but with different design resolutions. In figure 1, the masonry infill panel is visually held above the ground plane through the use of a rowlock brick course recessed back from the infill panel. In figure 2, a continuous dark stone base course, projecting from the wall and contrasting with the light colored stone of the remainder of the enclosure system, defines the edge of that enclosure system while also creating a visual transition to the grade. This symbolic expression of the building meeting the ground also serves to enhance the technical resolution required for effective wall performance. Flashing terminations at the base may occur in these recesses or projections where required without disrupting visual coherence; at the same time, material changes help reduce the impact of ground induced staining on vertical surfaces and can effectively contain damage from salts used in winter.

Spandrel/End/Corner Condition

Detailing issues which surround the articulation of an enclosure system defining the body or "shaft" of a building are numerous. The primary focus of Figures 3, 4, and 5 is to address the tectonic implications of layering and turning a corner with an enclosure system. The concept of transparency[11] is effectively explored in figure 3. Within the minimized depth of the wall, the primary structural, granite clad, frame is contrasted

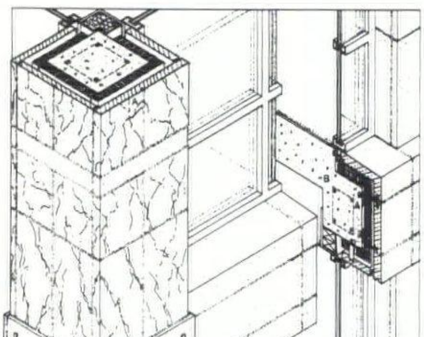


Figure 3

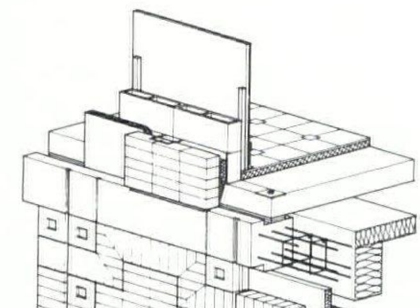


Figure 4

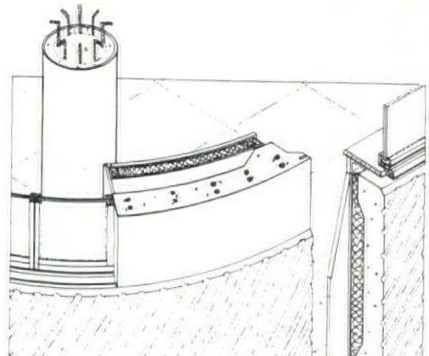


Figure 5

with a second, recessed, infilling frame of contrasting stone material. A third layer is developed in the mullion system which articulates the interior space planning module and mediates between inside and outside. The corner is further articulated by implying a fourth layer binding the corner which expresses the added structural strength required at the beam intersection with the column. Figure 4 follows the same strategy in brick masonry, creating layers and expressing a hierarchy of modularity through color and proportion. Wrapping the structure continuously with the enclosure system, figure 5 dematerializes the apparent weight of the precast concrete panels. Layering is achieved here by projecting the rough textured diagonal reveals from the surface of the smooth finished concrete. The continuous horizontal nature of the enclosure is reinforced with deep reveals at the top and bottom of each panel which also serve to conceal joining of the panels at the beams.

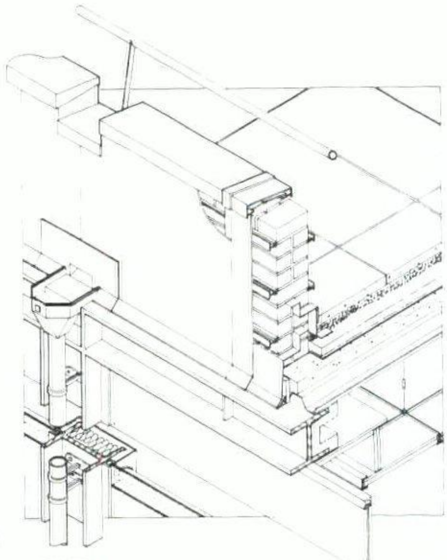


Figure 6

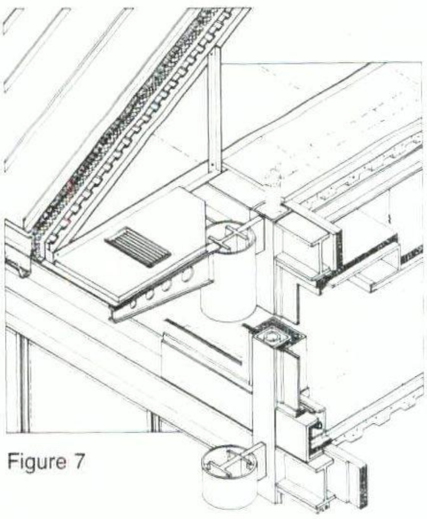


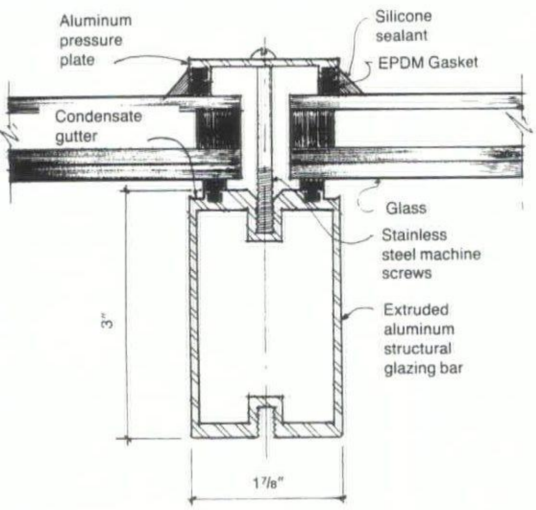
Figure 7

Eave/Parapet Condition

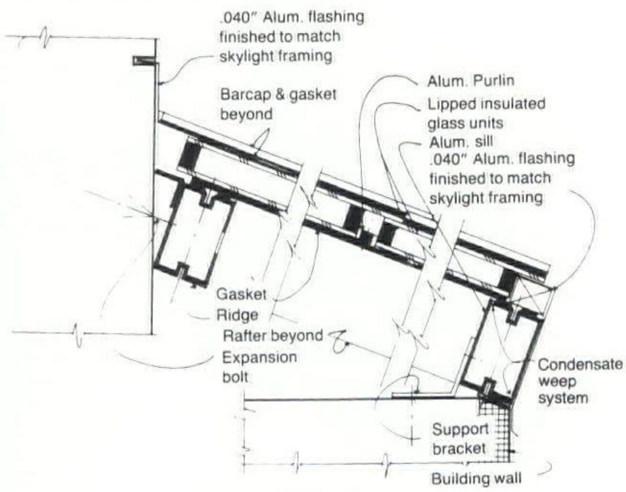
The resolution of an enclosure system as it "meets the sky" is a visually critical detail with tremendous opportunity for construction failure. In designing a terminal floor and its roofing system, two fundamental approaches suggest themselves. When the roofing system engages the vertical enclosure system, whereby the enclosure system dominates the composition, as occurs in figure 6, a parapet condition exists. If, on the other hand, the roof overhangs the vertical enclosure system, as shown in figure 7, an eave condition exists. The sky may be met utilizing either of these two conditions or a combination of both. In figure 6, the primary structural system is set in front of the parapet wall, expressing its dominance in the composition and treating the parapet as another layer. Notches in this parapet wall and a scupper-to-downspout roof drainage system are employed to add another level of articulation to the facade. In contrast, the roof clearly terminates the enclosure system in figure 7 with its extended overhang. The shadow cast by this eave condition creates the visual impression that the roof is floating above the expressed structural system, while at the same time providing solar and environmental protection for the enclosure system.

These examples show clearly that architectural details need to be examined and evaluated as literal technical solutions to construction assembly. But they also show that details require careful scrutiny and appraisal as expressive, symbolic elements of style. Through a considered approach to the relationship between tectonic detailing and construction, building design, as well as the manner in which architects address the design process, can be transformed.

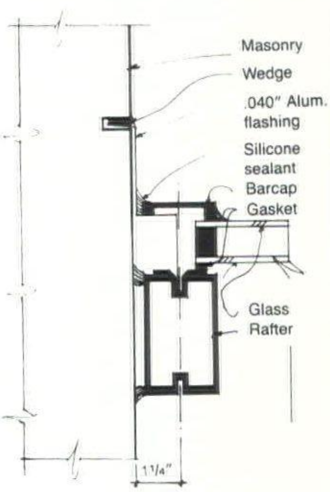
1. Kazin, Alfred. The Portable Blake. New York: The Viking Press, 1946, p. 55.
2. Alberti, Leon Battista. De Re Aedificatoria. Florence 1485. Translated by James Leoni and edited by Joseph Rykwert as Ten Books of Architecture. London: Alec Tiranti, 1965, Book IX, ch. V.
3. Bosanquet, Bernard. *A History of Aesthetics* 2d ed. London: George Allen and Unwin, 1934, pp. 47ff., 16-17. Imitative is defined here as "an image, considered to be a sensible duplication of sensible appearances".
4. Bosanquet, Bernard. op. cit. Symbolic work "presented an ideational reality in a sensuous medium".
5. Scruton, Roger. *The Aesthetics of Architecture.* Princeton: Princeton University Press, 1979, p. 221.
6. See for example Siegfried Giedion, *Space, Time and Architecture.*
7. Colquhoun, Alan. *Essays in Architectural Criticism.* Cambridge, Massachusetts: MIT Press, p. 30.
8. Scruton, Roger. op.cit., p. 219.
9. For the development of these categories, I am deeply indebted to Professor David Evan Glasser. For their refinement, to both Professors Glasser and Michael Utzinger.
10. The students engaged in this investigation were Curt Behnke, Alvyn Cheong, David Hoffman, Ahmad Hussain, David Jaeckels, Paul Kalous, Krisnany-Samedyastoe, Thomas Mozina, Brian Peterson, Jose Pimentel, William Rogalski, Clark Thiel, Brian Weinhold, Brian Witteman and Johnny Wong.
11. See Rowe, Colin. *The Mathematics of the Ideal Villa and Other Essays.* Cambridge, Massachusetts: The MIT Press, 1976, pp. 159-183. According to Rowe and Slutzky, a sense of transparency and layering in facades can be achieved physically in one plane while appearing visually layered one on the other through the use of color, rhythm and proportion.



RAFTER DETAIL



SKYLIGHT DETAIL



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DESIGNING IN THE

by Thomas Hubka

The idea of relating an architectural design to its site and context is one aspect of the overworked, but still valuable term: "contextualism". Without outlining all the positive and negative associations, the idea of contextualism has generally contributed to a positive assessment of Wisconsin's vernacular architecture as a source for design ideas. Depending upon the particular design situation, it is now generally acceptable for an architect to "relate to", "borrow from", "be influenced by", "deconstruct from" and "pick up on" examples of Wisconsin's vernacular architecture. In this article, I would like to address one aspect of the way architects borrow ideas from the vernacular.

VERNACULAR

BUILDING

CONTEXT

When my design students attempt to "be contextual" in a site surrounded by Wisconsin's vernacular buildings, they usually borrow a dominant form or element, like the shape of a prominent gable or porch, from a conspicuous neighboring building. While this direct borrowing is always possible (and sometimes desirable), I attempt to explain that borrowing ideas from vernacular architecture (or any architecture) has many dimensions or possibilities and that borrowing exciting shapes and forms is just one possibility. I usually proceed to outline the levels of conceptual borrowing that constitute a range of interpretive categories from which to extract ideas about buildings. In relation to vernacular architecture, I would like to describe in this article, a set of categories which might constitute a deep structure from which to analyze the vernacular source. In order to keep this discussion manageable I will analyze a common vernacular house form, although the structure may be applied to any building type in the vernacular (non-architect designed) setting. Such a concept, I feel, would allow architects to relate their designs in more profound ways to their, usually vernacular, contexts.

The type of multi-leveled analysis I have in mind can be illustrated from an example of vernacular building classification. Although my vernacular-architectural-historian method is academic, I believe that a comprehen-

sive architectural and cultural analysis can develop strong possibilities for design ideas. The typical Wisconsin vernacular house in Figure 1 might be interpreted in several ways: by applying stylistic criteria it is a vernacular version of a Greek Revival style house; by using structural criteria it is a medieval, heavy timber, mortise-and-tenon house with transition balloon framing; with spatial organization criteria it can be seen as a T-shaped plan, organized around the room in the wing; according to functional criteria it becomes a kitchen centered, double parlor house; and from a contextual perspective it is a south facing, road-oriented house. Which house is it? It is indeed all of these houses. The problem for architectural analysis and borrowing is to maintain the strengths of these various analytic perspectives while still achieving a comprehensive consensus about what is most significant. To be sure, an expanded interpretive system will be awkward for some, and we must develop shorthand methods. On the other hand, we can simply no longer label the house a Greek Revival house and be done with it: the total equation is far too subtle and complex to be limited by the historic conventions of stylistic categorization.

I have selected the common example of the temple and wing house because it conveniently illustrates the five classification criteria which I recommend be used to analyze and interpret Wisconsin's vernacular and popular architecture. They are: 1) Spatial Organization, 2) Architectural Style, 3) Structural System, 4) Social Usage and 5) Context. While none of these categories is original to my analysis, I believe that their combined application as a method of organizing Wisconsin's vernacular architecture provides an invigorated and useful approach to enlarge the discussion of borrowing from context.

The first criterion, spatial organization, can simply be understood as the arrangement of rooms in plan, although more complex sectional and volumetric interpretations may be employed. Since vernacular and popular examples are so variable with regard to precise measurement, comparisons between buildings must rely on typological, structuralist, or pattern seeking strategies to discern broad similarities in spatial organization. For example many vernacular structures present radically different exterior appearances and yet are unified by a similar organization of plan.

The second criterion, architectural style, needs little explanation for most architects. For vernacular architectural historians, however, the criterion of style needs considerable explanation for it is a historically charged concept which has been used by architectural historians to enforce a have and have-not distinction between "correct" architecture and "vernacular" architecture. The vernacular approach to the analysis of architectural style extends the traditional historical model by introducing concepts such a frontality, ornamental focus, stylistic transformation over time, and aesthetic reduction. Style, to the vernacular architecture historian, concerns a building's total appearance.

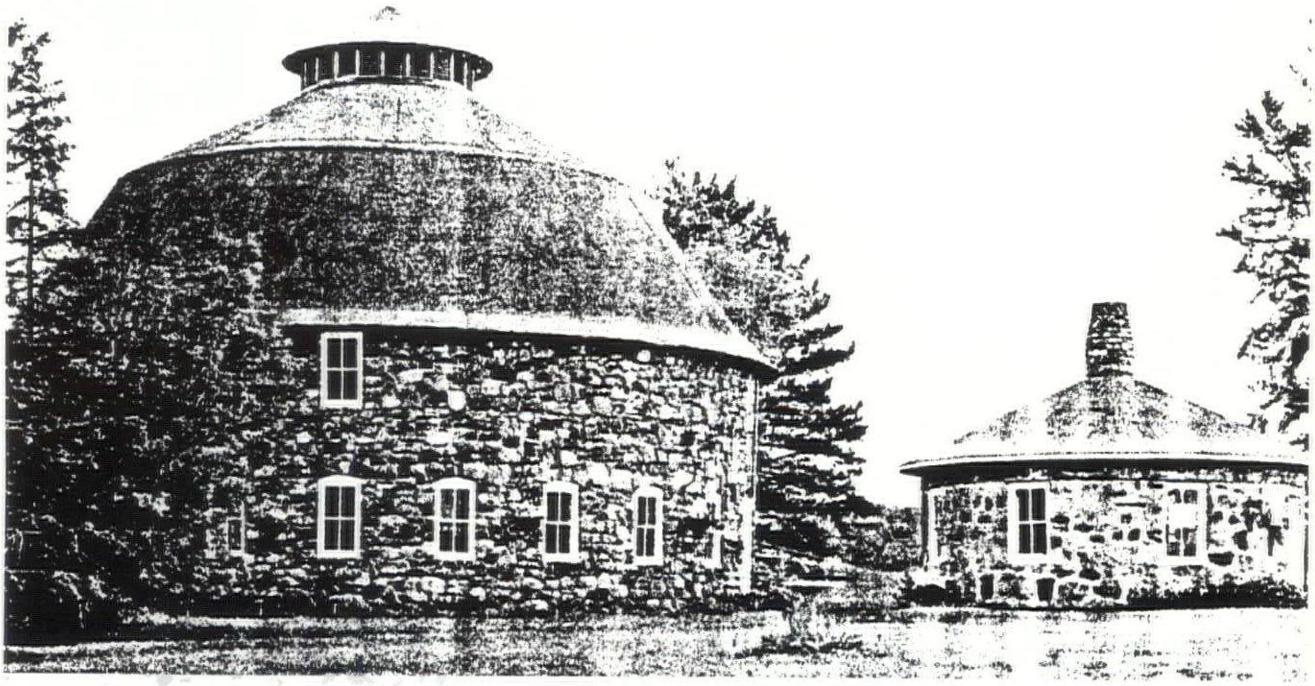
The third criterion, structural or material system, is familiar to architects. Structural classification may also be extended to include technological systems which have received increased attention, especially with regard to late nineteenth and twentieth century industrially influenced vernacular buildings.

The fourth criterion is social usage. On the simplest level this analysis communicates information about how a building was used by its inhabitants. For example, the location of the kitchen is crucial to the way most vernacular housing operates. On more advanced levels, usage analysis can reveal multiple activities across time, gender roles, family structure, work relationships, and user attitudes toward the environment; all criteria from which to generate design ideas.

The fifth criterion, context, emphasizes the analysis of the vernacular structure within the physical and historical conditions of its time and place. Historians of vernacular architecture have long emphasized the important relationship between the vernacular building and surrounding community. For a large percentage of agriculturally related vernacular structures, site analysis is an obvious key to interpretation. By interpreting context from a broader cultural-historical perspective, vernacular buildings may also be analyzed according to social, economic, religious, and technological perspectives.

By employing these five criteria to examine examples of vernacular architecture (or any type of architecture) I believe it is possible to enlarge the way we view the vernacular source as a potent source for design ideas. Several recurring problems or persistent myths, however, makes this synthesis somewhat difficult to achieve.

Architects who have been trained in the methods of traditional architectural history frequently look at vernacular structures with a bias toward buildings which are pure, unaltered and readily identified according to particular stylistic category or form type. Conversely, buildings with checkered pasts, continuously remodeled facades and mongrel pedigrees are often seen as somehow less critical to incorporate into their designs. This is a serious problem for the appreciation of vernacular architecture because most folk buildings are composed of a mixture of various plans, technologies, styles, and uses and they were often built over time. Such an integrative combination is not necessarily the result of carelessness (although it can be) or an aesthetic misunderstanding (although it can be) but usually the product of a consistent methodology of incremental growth and consensus selection. Consequently the architect who attempts to understand vernacular buildings must develop an appreciation for the



plurality of periods, styles and uses in architecture as the normal, expected condition for what a building is supposed to be like.

I would like to emphasize a final principle for guiding the analysis and borrowing of Wisconsin's vernacular architecture source. I recommend the need for a populist ideal of classification and interpretation. By this I mean that the demographics of buildings must guide the way we analyze vernacular architecture. In populist theory, numbers count. For some of my architectural colleagues this is a bitter pill to swallow. But to do otherwise inevitably risks that a few isolated or selected examples, no matter how laudable, are made to stand for the many. This will never suffice for a truly representative accounting of Wisconsin's vernacular architecture which ultimately, I feel, will effect they way designers look at and borrow from vernacular buildings.

This problem can be illustrated by an example of the Wisconsin barn. The round barn is a much photographed and widely admired example of the Wisconsin barn (Figure 2). As an example from which to understand all barns, however, it is misleading. It must continually be emphasized that the round barn is not a representative example of the common Wisconsin barn. I do not want to deny the beauty of these unique vernacular creations but I would like to emphasize that the investigation of the Wisconsin barn is confused by the frequent emphasis upon this unique type of structure. Such a study must begin with the English and Germanic barn traditions and their spread and development in Wisconsin. Within this historical context we shall then better appreciate the truly remarkable accomplishment of the builders of round barns. Without this check of demographics, however, it has been easy to concentrate on unique barns and to produce endless subsets of barn types while failing to grasp the essential unifying features about them. Extending this populist principle to the analysis and classification of the entire stock of Wisconsin residential architecture, we can begin to perceive broad structure. Instead of finding an endless progression of shifting styles and sub-categories, there would emerge a mountain range whose major peaks were the temple-and-wing house, the German two room deep plan, the bungalow, and the ranch house. When looking at the vernacular environment, therefore, it seems important that the architect be able to distinguish between profound unity and isolated irregularity so that the new design might relate to its most significant context. Classification on this scale is, of course, never easy or absolute, but the demographic outlines are clear and persistent and must be used to form a workable conception of the whole. In conclusion, I would like to emphasize that the idea of relating to the broad architectural, environmental and cultural context is one of the most profound sources for architectural design. I have merely attempted to portray vernacular architecture as one of these rich sources.

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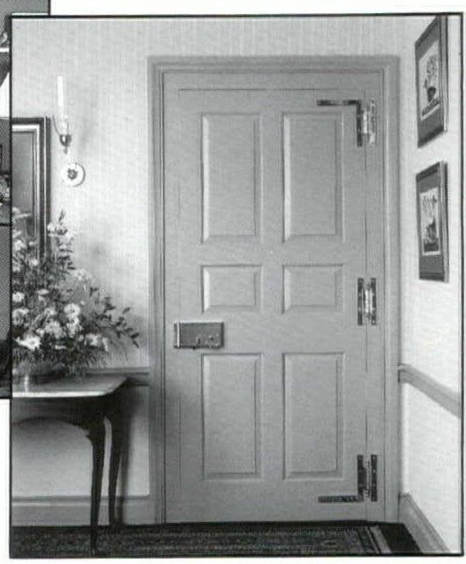

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WAF Campaign 300

The Wisconsin Architects Foundation (WAF) has launched a three-year fund raising effort to broaden its base of financial support and increase its ability to provide annual scholarships for Wisconsin students pursuing degrees in architecture. "Campaign 300" was formally kicked off at the WAF Annual Meeting in May.

The goal of "Campaign 300" is to build the WAF's endowment to a level sufficient to generate an additional $25,000 in annual scholarships. Financial support is being sought from Wisconsin corporations, foundations, architects and others involved in the construction industry.

The Wisconsin Architects Foundation was established in 1954 as a tax exempt 501(c) (3) organization. The WAF is governed by a nine-member Board of Directors elected for three-year terms. The majority of the WAF Board of Directors must be registered architects and members of the Wisconsin Society of Architects of the American Institute of Architects.

Over the past 30 years, the WAF has contributed in excess of $120,000 in educational scholarships to over 150 students. The WAF Board of Directors currently administers an endowment of over $100,000 and awards approximately $7,600 in annual scholarships.

WAF scholarships have made an important difference in the past, but more needs to be done to assist Wisconsin students in meeting the ever-increasing costs of an architectural education. The WAF presently is able to provide the equivalent of six one-half year tuition scholarships. The goal of "Campaign 300" is to be able to provide 20 full-year tuition scholarships annually.

Wisconsin's architectural community has given generously to the WAF over the years. This support has enabled the WAF to achieve many other significant goals in addition to increasing annual scholarships. The establishment of a School of Architecture in Wisconsin, the development of the Wisconsin Architectural Archives, and the restoration of the landmark Joseph Stoner House in Madison are examples.

The Wisconsin architectural profession depends on well-prepared graduates who are able to meet the challenges of the future. The Wisconsin Architects Foundation was formed to promote "the science and art of planning and building by advancing the standards of architectural education, training and practice."

The WAF maintains a close relationship with the School of Architecture and Urban Planning at the University of Wisconsin-Milwaukee (UWM SARUP), providing financial assistance for architecture students and program development. WAF grants also are provided each year to student societies at SARUP, MSOE and several vocational, technical and adult education districts in Wisconsin to assist them in developing architectural programs.

The purpose of the WAF is to build a better Wisconsin through architectural education. The goal of "Campaign 300" is to increase our ability to encourage the most talented Wisconsin students to pursue careers in Architecture. As the cost of higher education increases dramatically and other sources for financial aid decline, the role of the WAF becomes more critical and significant.

"Campaign 300" represents an ambitious effort by the WAF to broaden the base of private support for architectural education in Wisconsin. The Executive Committee established for the Campaign is made up of Jack Fischer, AIA, Dean Carl Patton, Val Schute, AIA, and Gary Zimmerman, AIA. A 26-member Steering Committee also has been established to help guide the Campaign and includes business and construction industry leaders from across Wisconsin.

This ambitious WAF fund raising effort warrants the continued strong support of Wisconsin architects. A contribution to the Wisconsin Architects Foundation represents an investment in the future of Wisconsin and the state's architectural profession.

EDITOR: The author is President of the Wisconsin Architects Foundation and also serves on the "Campaign 300" Executive Committee. For additional information on "Campaign 300," contact the WAF office in Madison . . . 1-800-ARCHITECT.

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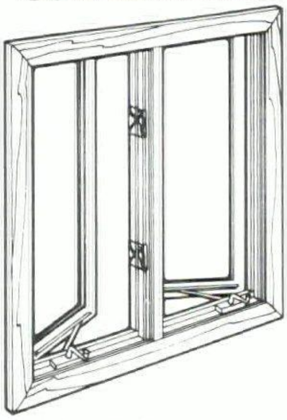

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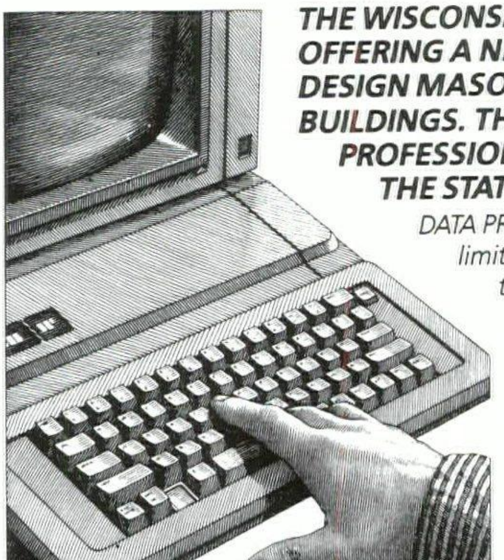

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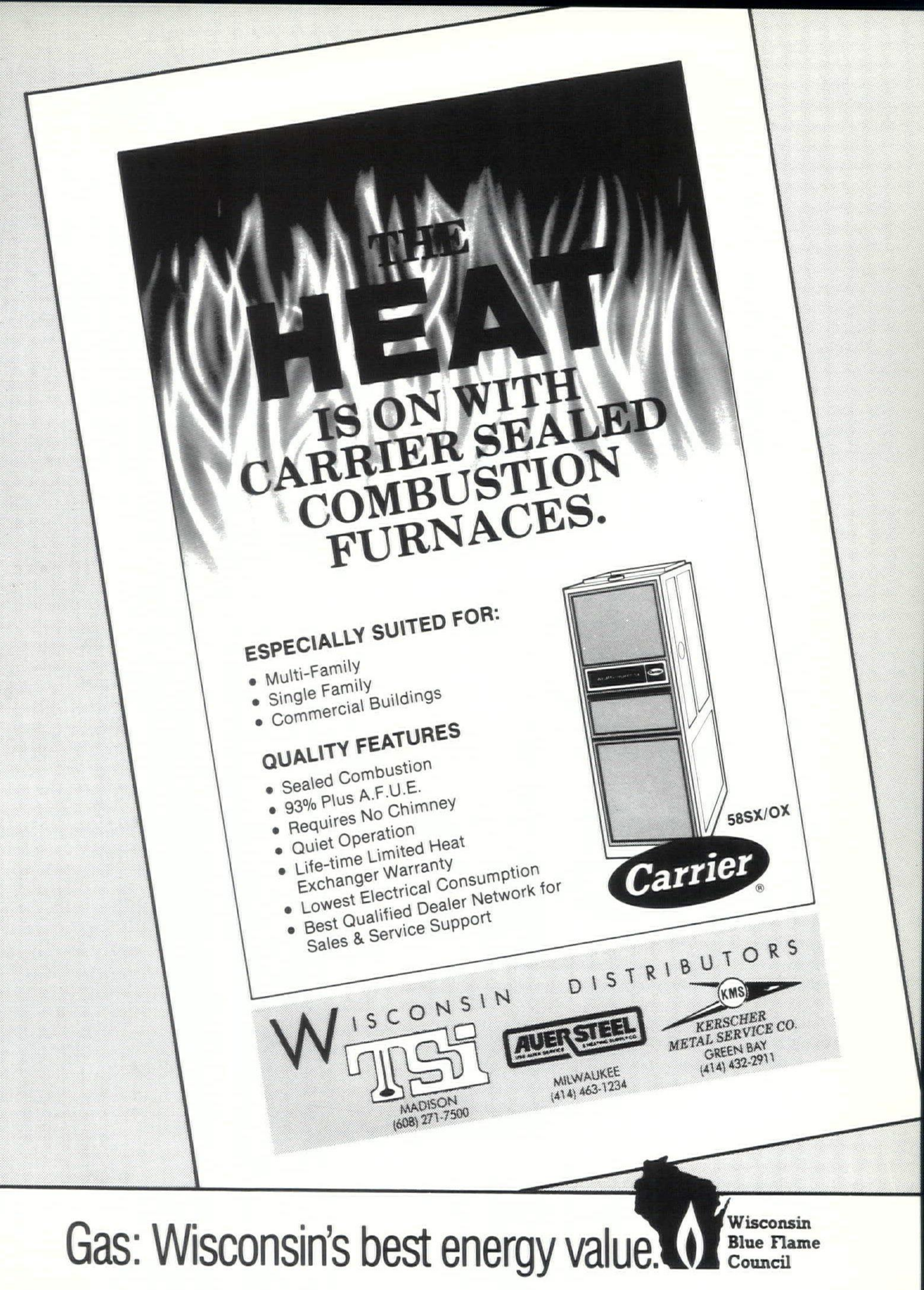
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State Sales Tax

Proposals to expand the state sales tax to architectural and other professional services are constantly proposed by members of the Legislature. The WSA is aware of at least one Wisconsin firm which has added language to its contracts to the affect that the owner is made responsible for any potential sales tax liability for architectural services.

This contract provision accomplishes a couple of things. First, it makes it clear that the architect won't get caught having to pick up any sales tax due the state should legislation be adopted. Second, it alerts owners that the Legislature is thinking about such a sales tax increase.

Use of CADD

In a world that depends more and more on computers, two-thirds of AIA member-owned firms report owning one or more personal computers. While administrative functions such as word processing and financial management dominate computer use, about half of the firms use computers to write specifications and 31% produce construction drawings using CADD, according to a recent survey.

A surprising fact is that 58% of the firms that own CADD systems don't use them to produce construction drawings. Currently, 26% of architect firms have at least one architect on staff who is proficient in CADD and 22% reported other CADD-proficient staff.

Software Grants

The American Institute of Architecture Students (AIAS) and Microtecture Corporation (the developers of DataCAD computer-aided design software) have awarded $1 million worth of computer software to 56 universities across the country. The School of Architecture and Urban Planning at the University of Wisconsin-Milwaukee is one of the 1988 educational grant awards recipients. The software grants will assist schools in educating strudents in technological advances in design-related computer applications.

Texas A & M Graduates

Just because you're paranoid doesn't necessarily mean that they aren't really trying to get you. The Department of Architecture at Texas A & M University is trying to find former students. If you fit the description, please send current address, affiliation and telephone number to the Department in College Station, Texas 77843-3137, Attn: Linda Menn.

Study Tour

Wisconsin Architect's foreign correspondent reports that a group of Wisconsin architects recently visited England on a study tour of architecture in London and the southeast of England. The trip was organized by Bob Greenstreet, Chairperson of the Department of Architecture, University of Wisconsin-Milwaukee, and many of the tours were led by Jill Jones, Professor of Architecture at Central Polytechnic, London. The group included such notables as Sherrill Myers, Art Chadek, Diane Hamman and Marty Choren and was based in the recently renovated Russel Hotel, a Victorian monster in the heart of the City of London. Tours were organized around the city to see major buildings both old and new, including a trip to Lloyds of London and the many buildings by Wren, Hawksmoor and Jones at Greenwich. The group took a ferry down the Thames to see the new docklands and were walked to a standstill by the amazingly inexhaustible Jill, who took them all home for tea on the final day.

The group also visited Oxford and toured the colleges, some dating back to the twelfth century. From there, they travelled on to Blenheim Palace, Vanburgh's masterpiece in Woodstock set in grounds laid out by Capability Grounds where, among other things, they spotted the Duchess of Marlborough in the cafeteria.

According to our ace reporter, it rained a lot, but that didn't deter the group, who displayed good humor and camaraderie at all times (even to the wierdos on the Tube). They travelled around extensively, finding great restaurants, making questionable theater outings and generally making the trip a success.

Ownership Transition

Architecture is a flexible business. Practices expand and contract; partnerships emerge and dissolve. Many architects, however, give little thought to the transfer of management and control within the firm.

The Houston Chapter/AIA recently developed a new publication, *Ownership Transition: Guidelines and Checklists,* that provides a guide to management, marketing, legal and accounting considerations essential for a successful change of ownership. Copies of the publication are available at $5 plus $1.50 shipping and handling from: Houston Chapter/AIA, 20 Greenway Plaza, #246, Houston, Texas 77046; (713) 622-2081.

High School Design Competition

Each year for the past 14 years the Southwest Wisconsin Chapter of the WSA has sponsored a High School Design Competition. This year's competition, chaired by Pam LaRue, involved the design of a lake-front pavillion for the performing arts.

The 1988 design competition winners included: Lee Yang, Madison Memorial, *First Place;* Sean M. Mitchen, Madison West, *Second Place;* Mike Slattery, Sun Prairie, *Third Place;* David Williams, Janesville Parker, *First Honorable Mention;* Brian Volk, Middleton, *Second Honorable Mention;* and Douglas Letcher, Janesville Parker, *Third Honorable Mention.* Special recognition also was given to Christopher Korger of Madison Memorial for creativity, Michael Ziehr of Madison West for technical skills and Rebecca Stone of Madison Memorial for creativity. Lee Yang received a $150 scholarship from the Wisconsin Architects Foundation for her winning entry.

People & Places

Engberg Architecture is pleased to announce that Keith Anderson, AIA, has joined the firm as Principal and that Hal Koenig, AIA, has been named Project Manager. The firm is now named Engberg Anderson, Inc., and is located at 611 N. Broadway in Milwaukee.

Congratulations to Murray L. Kinnich, AIA, and Ernest G. Lindgren, AIA. They have been accepted as Emeritus members of the American Institute of Architects. Murray can be reached at 16355 Gebhardt Road in Brookfield, and Ernest can be reached at N2279 Country Lane in Waupaca.

Jeffrey M. Kosloske, AIA, has been promoted to an Associate with Strang, Inc., Architects/Engineers/Planners in Madison. He joined Strang in 1985 as a Project Architect and has been involved with a number of the firm's larger projects. Kosloske is a graduate of the UW-Milwaukee School of Architecture.

Allan Washatko, AIA, Principal in the firm of Kubala Washatko Architects, Inc., has received a Merit Award from the American Institute of Architects 1988 Architectural Photography Competition for his photograph entitled "Red Font." The winning photo will be a part of an exhibit at the Octagon in Washington, D.C. this year. "Red Font" is a photograph of the baptismal font in St. Mary's Cathedral in Tokoyo, Japan.

David E. Lawson, FAIA, recently testified before a House Judiciary subcommittee on proposed federal legislation which would bring U.S. copyright law into line with laws of other nations that have signed an international treaty known as the Berne Convention. The proposed legislation provides for the first time an express protection of "architectural plans."

Albert F. Keymar, AIA

AIA Emeritus member Albert F. Keymar died at St. Joseph's Hospital in Milwaukee in April. He was 90 years old.

Keymar was a former partner of Plunkett Keymar Reginato (PKR) Architects. He retired from PKR in the early 1970's.

When Albert Keymar joined the firm in 1946, the office had just expanded to a staff of seven at 1220 North Milwaukee Street. The name of the firm was changed to Ebling Plunkett & Keymar in the 1950's.

Albert Keymar was responsible for many of the firm's educational projects, including Cedarburg High School, Lutheran High School and Wisconsin Lutheran Seminary.

The profession will miss its good friend, Albert Keymar.

Membership Action

Feiman, Jonathan, was approved for Student Membership in the Southeast Wisconsin Chapter.

Mecikalski, Edmund, was approved for Associate Membership in the Southeast Wisconsin Chapter.

Barger, Dennis M., was approved for AIA Membership in the Southwest Wisconsin Chapter.

Nicla, Veronica, was approved for Associate Membership in the Northeast Wisconsin Chapter.

Kincaid, D. Thomas, was approved for AIA Membership in the Southeast Wisconsin Chapter.

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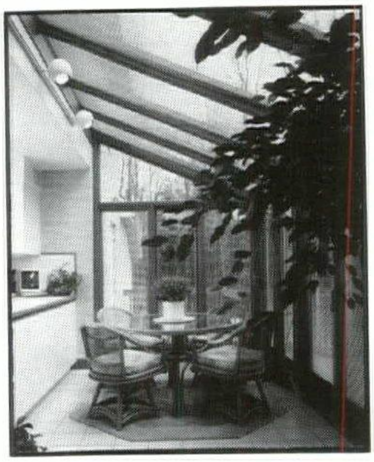

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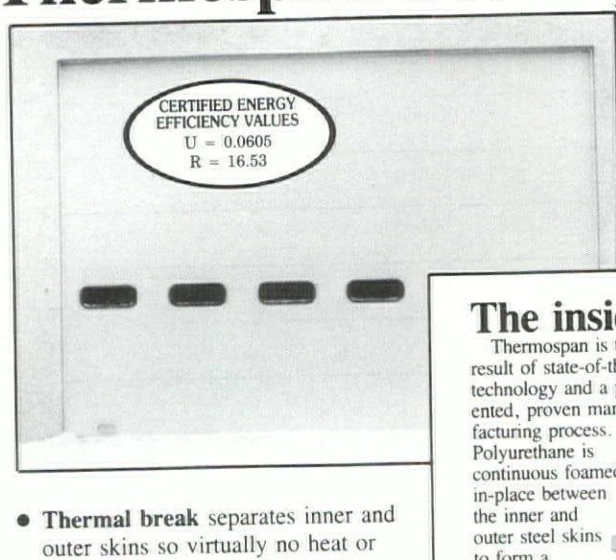
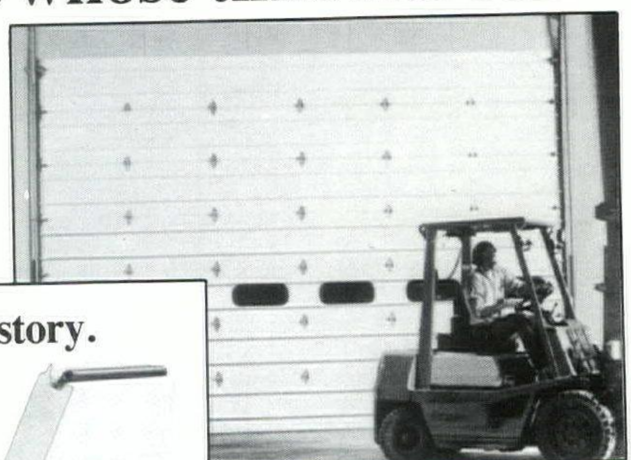
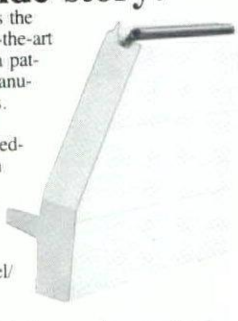




The inside story.



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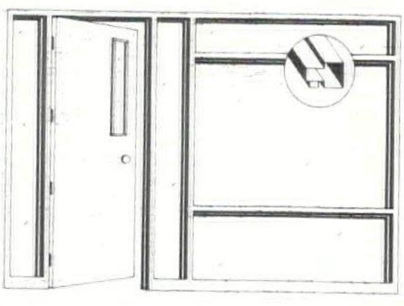

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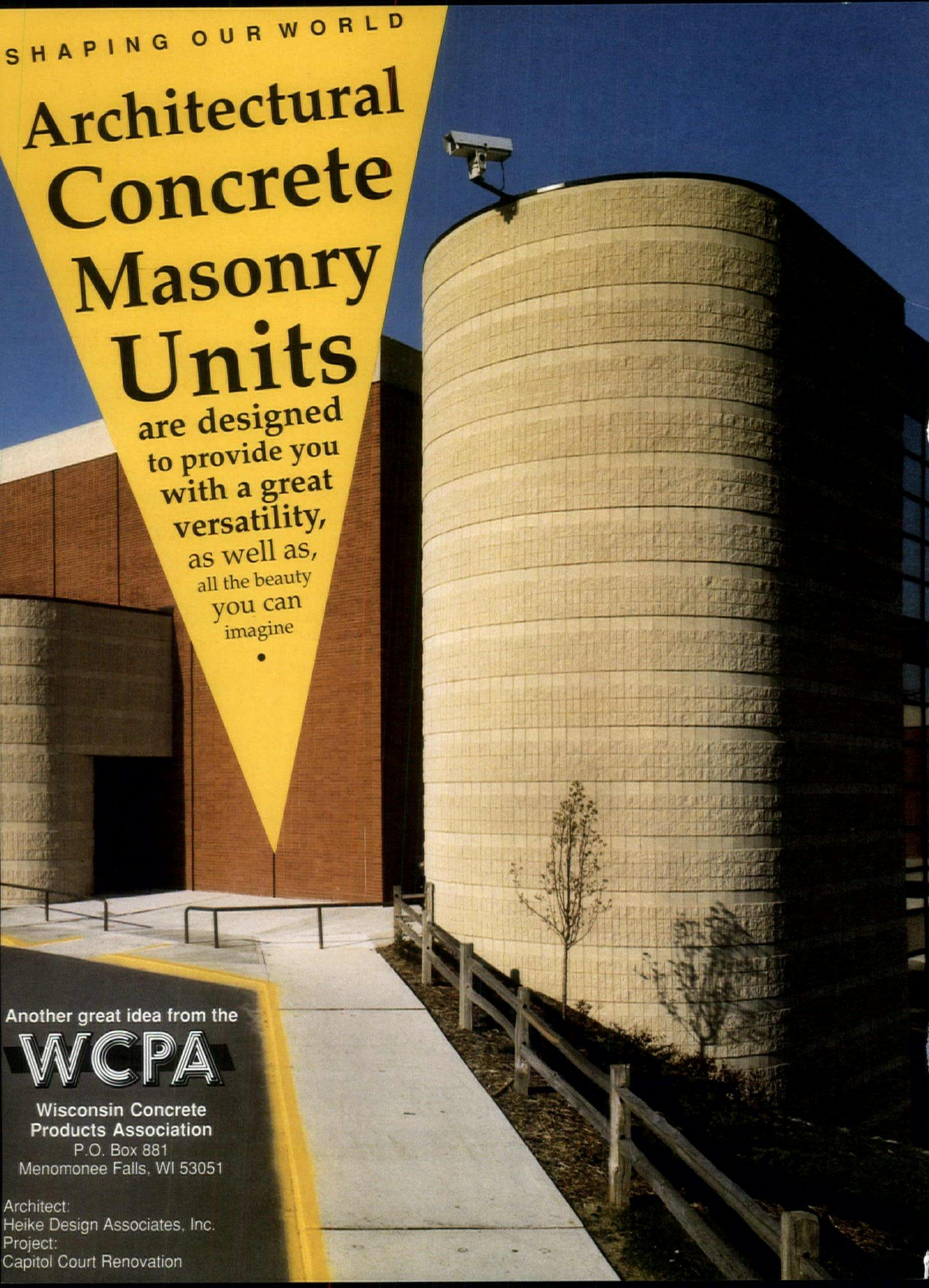
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