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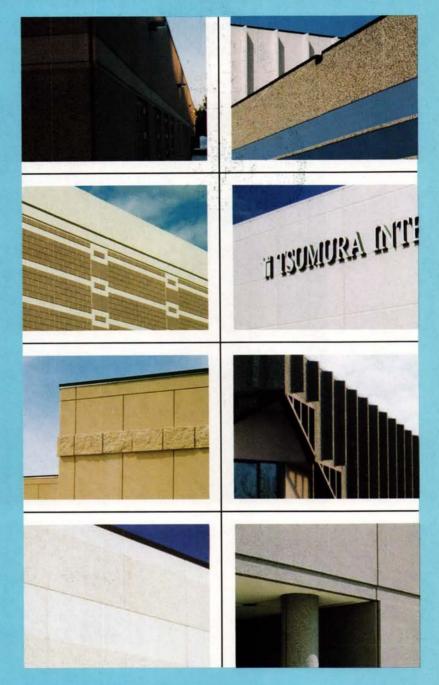
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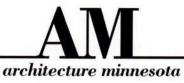
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VOL. 19 NO. 5



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North Woods Elementary School, La Crosse, Wis. Architects: Wold Architects & Engineers. Photographer: Willette Photography.

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Not just another pretty picture

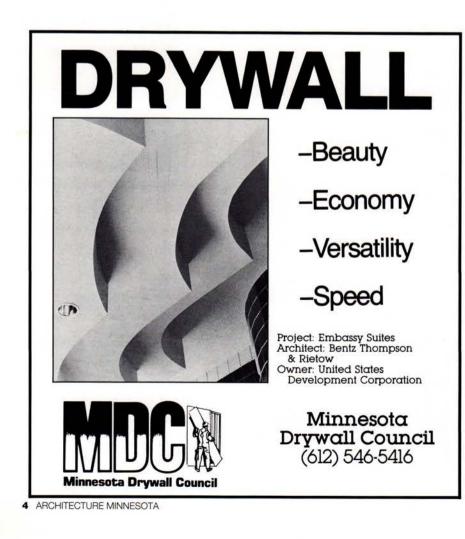
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Too YOUNG to designate ... Too OLD to award

Buildings from the midcentury fall into a precarious category for preservationists. Generally, they are too young to designate as historic landmarks—for that, they have to be at least 50 years old. But they're also too old to garner awards and recognition from the public and the architectural community—for that, they have to be newer than eight years old.

Midcentury buildings, typified by the modernist glass box, are often viewed with indifference, at best, by the public. They're seen as cold, unadorned, impersonal. Many, however, are among the finest works of architecture designed in the 20th century. Mies van der Rohe's Crown Hall at the Illinois Institute of Technology in Chicago and Philip Johnson's glass house in New § Canaan, Conn., are two prime examples of modernism at its finest.

Locally, we have such midcentury masterworks as Ralph Rapson's original design of the Guthrie Theater in Minneapolis, Marcel Breuer's Abbey Church at St. John's University in Collegeville, and Gunnar Birkert's Federal Reserve Bank Building in Minneapolis, among others.

The Historic Resources Committee of AIA Minnesota is surveying Minnesota buildings from this period (older than eight years, newer than 50 years) to identify significant architecture. This page shows three prime candidates. Already we have lost important examples of modernist architecture. By compiling this "unscientific" list of modernist buildings, the committee hopes to raise public consciousness about post-World War II architecture and avoid losing other buildings. Architecture Minnesota periodically will feature selected buildings that are "Too old to award ... Too young to designate."

> Top: The IDS Center, 1973, Minneapolis, designed by Philip Johnson & John Burgee and Edward F. Baker Associates, Inc.

Middle: The Minnegasco Building (originally Lutheran Brotherhood), 1955, Minneapolis, designed by Perkins & Will of Chicago.

Bottom: Fairview Junior High School, 1955, Roseville, designed by Setter, Leach & Lindstrom (then Magney & Tusler).

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YOUNG ARCHITECTS RECEIVE NATIONAL CITATION

wo Minnesota architects were among four recipients of the 1993 American Institute of Architects Young Architects Citations. Vicki L. Hooper of RSP Architects in Minneapolis, and Joan M. Soranno, who practices independently in Minneapolis, were lauded for their dedication and service to

for their dedication and service to the architectural profession and community.

each month by a firm member. The program, says Hooper, encourages architects to talk about the "bigger picture" and share knowledge and information.

Hooper's talents particularly shine with her community work. She's helped shape the 8-year-old

AIA Minnesota Design Team into an effective grassroots program that encourages small Minnesota communities to asses their strengths and weaknesses-from both an economic and design perspectiveand plan for the future.

Joan M. Soranno, a 1984 graduate of the University of Notre Dame, says her work "is based on a design philosophy that seeks beauty and meaning in the tangible attributes of architecture: the program, building tectonics, and context."

The jurors clearly agreed when they said "[She] has dedicated herself to elevating architecture to the highest level of art. Her understanding of the total environment and how the design process can enrich our world is recognized in her work."

Soranno was born in Boston and lived in Milan, Italy, during most of the 1970s. Good architecture, for her, combines theory and practice. "As a young architect, I feel it is important to understand each step in the architectural process," So-

Don F.

PUON

Vicki Hooper

Since graduating with an architecture degree from the University of Kansas in 1982, Hooper has developed a solid reputation as a designer and community advocate.

"[She] has demonstrated the positive effects of an architect working in service for her community," the jurors said. "Her contribution as chair of the Minnesota Design Team and as academic mentor to many young people exemplify a breadth of social consciousness and sensitivity benefitting everyone she touches and reflecting favorably on the profession and its membership."

As a senior project architect with RSP, where she's worked since 1987, Hooper has been project architect for 15 Target stores and has implemented design and construction documents for more than 25 projects. She also initiated a program called "RSP Chats," in which a different design topic is presented She's also active in the Neighborhood Involvement Program (NIP), which tutors students from 5th through 7th grades. "Working one on one with a student made me feel like I

really could make a difference in a person's life," Hooper says.

Joan Soranno

Hooper has contributed to her South Minneapolis neighborhood through the Lyndale Neighborhood Association, the Lyndale Neighborhood Development Corporation, and the Community Improvement Consortium.

"My involvement in the community is based on my belief that we as citizens can and should have a say in the environment in which we live," Hooper says.



Don F. V

ranno says. "It is necessary for me to broaden my sphere of knowledge in both design and technology. Architecture is not a choice between practice and theory. It is the synthesis of ideas, program and building technology."

She explored many of her design theories in a 1989 exhibit at the Minneapolis College of Art and Design called "Illegal Houses," on

Continued on page 62

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AM previews

New Works by Clarence Morgan Carolyn Ruff Gallery Minneapolis Sept. 11-Oct. 16

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Two Lives: Georgia O'Keeffe and Alfred Stieglitz— A Conversation in Paintings and Photographs Minneapolis Institute of Arts Through Sept. 12

In this exhibit, the two artists' work is shown together for the first time since 1924. *Two Lives* examines the influence the two artists had on each other. The exhibit also looks closely at the relationship between photography and painting.

For more information, call (612) 870-3000.

38th Annual Valley Antique Show and Sale National Guard Armory Stillwater, Minn. Sept. 17-18

More than 20 antique dealers from throughout the Midwest will display and sell vintage furniture, silver, china, jewelry, glassware, and collectibles. The show is presented by the St. Croix Valley Branch of the American Association of University Women. Tickets are \$2 and used for educational scholarships and projects.

For more information, call (612) 439-0068 or (612) 439-4409.

Design Arts Festival International Market Square Thursday, Sept. 30

From upholsterers to faux finishers, brass replaters to weavers, a range of custom-service providers will exhibit their wares and demonstrate their talents. This day-long event will feature artisans, fabricators and installers in temporary exhibits, while showcasing new products and services in IMS's showrooms. Seminars will run throughout the day, and a "Design Walk" through the showrooms will cap off the event.

Keynote speakers include Charles Gandy, president of Gandy/Peace Inc., in Atlanta, who will discuss "The ABC's of Making Money at Interior Design"; and Howard Birnberg, president of Birnberg & Associates in Chicago, who will present "Effective Project Management."

In addition, the Midwest Design Award winners and other exhibits will be displayed throughout the day.

For more information, call (612) 338-6250.

Vanishing Animals Goldstein Gallery U of Minn. St. Paul Campus Through Oct. 3

Designed with a young audience in mind, this juried multimedia exhibit presents an array of animal images inspired by endangered and threatened species from around the world. The exhibit also teaches preventive measures people can take to alleviate the plight of these animals. The work is by graduate and undergraduate students in the department of design, housing and apparel. In addition, original artwork on endangered animals from the Kerlan Collection of Children's Literature (Minneapolis campus of U of M) will be showcased.

For more information, call (612) 625-2737.

Building a Bridge of Light: The Photographic Processes of John Barnier Minnesota Museum of American Art St. Paul Through Oct. 3

This is the first solo museum exhibition of St. Paul photographer John Barnier, known for using nontraditional and historical processes to develop his contemporary photographs. The show also will contain prints by Barnier from the oldest existing glass negatives of photographs taken by M.J. Diness of 1850s Jerusalem.

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Continued on page 63

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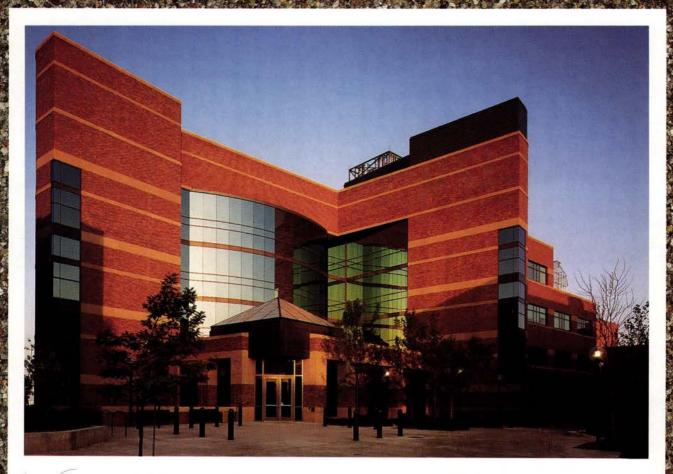
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Reviving an art form

In the tradition of a bygone era, fresco artist Mark Balma paints the St. Thomas ceiling

By John Manning



Fresco artist Mark Balma

People no longer know how to read visual images. That, at least, is the view of Mark Balma, who deals with symbolic language everyday.

"Fresco by its very nature has the greatest means of being able to express certain ideas ... as an enduring image," Balma says.

But if the only symbols that have meaning to most people are corporate logos like the Golden Arches, Balma says, then the job of communication is more difficult.

Balma spent the summer painting the ceiling of the University of St. Thomas's new downtown-Minneapolis

building. He will return the next two summers from his home in Italy to complete the ceiling, which will be the largest fresco in the United States.

While growing up in New Hope, Minn., the 36-year-old Balma says that he only saw frescoes in books. After moving to Florence in 1980 he saw for himself how frescoes have been used for centuries to convey ideas. When people couldn't read, fresco images taught them about the Catholic Church.

The St. Thomas fresco will stretch across a 112-foot-long vaulted ceiling in the 2-story main hall. It will consist of seven panels, each representing one of the virtues that Aquinas preached: faith, prudence, justice, hope, temperance, fortitude and charity. In addition, the University's donors will be painted in fresco on the hall's columns.

Balma developed his design schemes through discussions with University staff and the community at large. His challenge was to combine people's different ideas and still project a coherent message.

Continued on page 63

THIS BANK SELECTED US BECAUSE WE PAID HIGHER

It looks less like a bank and more like an English country manor. But the charm of the Investors Savings Bank belies the challenges its design and construction presented. Particularly to Marvin Windows and Doors.

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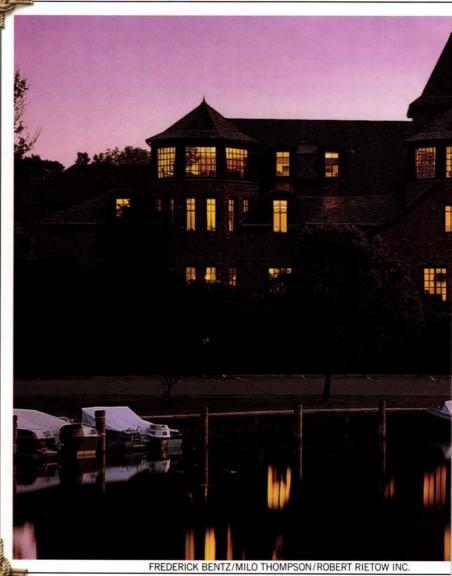
Marvin wasn't selected for the job until construction was underway, making manufacturing and delivery deadlines extremely tight.

But Marvin's biggest challenge proved to be the building's three massive window and door assemblies, the largest of which measures 28 feet wide by 30 feet high. Using a combination of sturdy Magnum Double-Hungs and French Doors, Marvin not only built them on schedule, but also engineered them prior to delivery to guarantee they would withstand the strong, prevailing winds off the lake. And, like all 177 of the bank's other

made-to-fit windows and doors, they were built with features designed specifically for the project. Features such as authentic divided lites, interior windows and doors glazed to match those on the exterior and a durable, factory applied finish in two complementary colors; Midnight Teal for the sash









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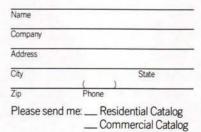
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and Graphite Grey for the frames. Shortly after its completion, Investors Savings Bank was named the NAIOP Build To Suit Building of the Year. Which just goes to show that paying extra interest can result in some handsome dividends.

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Reshaping the classroom

An architect discusses educational innovations achieved by redesigning the prototypal school room

By Kevin Sullivan

Restructuring is a popular concept in educational circles these days. Applied to everything from administrative systems to educational philosophies, the need to restructure has been embraced by educational professionals of almost every discipline.

Unfortunately, much of the discussion has overlooked one of the most confining and restrictive aspects of our current system, namely, traditional school design and the conventional square classroom. If we are serious about reshaping education in America, one of the best ways to begin is by redesigning the shape of the elementary classroom. The best designed educational facilities in the world cannot, by themselves, bring about educational reform-but a poorly designed facility can prevent reform altogether. Awareness of this fact is on the rise among educators at all levels.

One way to view the architectural implications of educational reform is to equate the cumulative effect of reform with a return to the one-room school house. The contemporary

challenge of identifying individual student learning styles, coaching students in applied learning opportunities and dividing instructional time between large and small groups to maximize efficiency are in many ways parallel to challenges presented by the range of student ages and abilities in the one-room school house of old.

But school design during the first two-thirds of this century was based on a model quite different from the oneroom school house—namely the assembly-line model. According to that model, students moved from 30-seat classroom to 30-seat classroom where bits of knowledge were added one piece at a time. Even in elementary grades where students may not have moved from room to room, the classroom layout itself—capable of supporting only a traditional student/teacher desk grouping—

The

classroom exercises a powerful influence over both the physical and philosophical structures of education. tended to foster the same lock-step instructional approach.

The classroom exercises a powerful influence over both the physical and philosophical structures of education. To give teachers freedom to experiment with the methodologies and techniques associated with educational reform, flexibility and diversity must be designed into the educational environment.

The true extent of that influence was dramatically illustrated during a school remodeling project undertaken in Pine City, Minn., by Wold Architects & Engineers of St. Paul. The purpose of the remodeling was to convert an older secondary school into an elementary school.

The Pine City school contained a mix of traditional square classrooms. A key redesign element was to expand the smaller classrooms to meet requirements of the Minnesota Department of Education. Architecturally, the solution was simple. The common wall between adjoining classrooms was removed, transforming two smaller square classrooms

into larger, 900-square-foot rectangular rooms. This seemingly simple architectural solution had far-reaching instructional implications.

A week after classes began at the school, the principal called to praise the redesign. Teachers were convinced that the new rectangular classrooms must be significantly larger than the square classrooms elsewhere in the building. What caused this perception in spite of the fact that the new and old classrooms were virtually the same size? Simply stated, the rectangular geometry increased spatial efficiency by increasing space for grouping and clustering, and by providing flexibility for new instructional approaches.

Continued on page 64



U.S. Department of Agriculture

"We wanted...(the structure) to tie into other buildings at the University, so we used a color of brick found on the adjacent structure, plus two other colors predominant on campus. The patterning of the brick draws from the Scandinavian tradition of enlivening utilitarian structures with color and pattern, creating visual interest during the long northern winters

– Loren Ahles, AIA, Project Designer – Hammel, Green and Abrahamson, Inc., Minneapolis Photography: Tom Hlavaty



Burnsville Marketplace – Burnsville, MN "Brick was chosen as the primary facing material...for all the long established, practical advantages; durability, low maintenance and cost effectiveness. Equally important...were the major aesthetic benefits...Brick was consistent with the surrounding context. The inherent design flexibility of unit masonry coupled with the available ranges of color and texture ensured us that Burnsville Marketplace would indeed age with interest.

- John Gould, AIA, Director of Design – KKE Architects, Inc., Minneapolis Photography: Lea Babcock

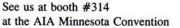


Warroad Public Library - Warroad, Minnesota "We selected brick for this project both to emphasize the horizontality of the design and to root the building firmly into its site. Brick connotes permanence and stability, while its modular form gives pattern to otherwise unrelieved surfaces." - Sarah Susanka, AIA- Mulfinger, Susanka & Mahady Architects

Photography: Peter Kerze

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How much control do you have over your environment? If you're an elementary or middle-school student, the answer may be "very little." Administrators and teachers traditionally call the shots. The buildings themselves, with their long circulation corridors or rigid rows of desks, often prove uninspiring—sometimes intimidating.

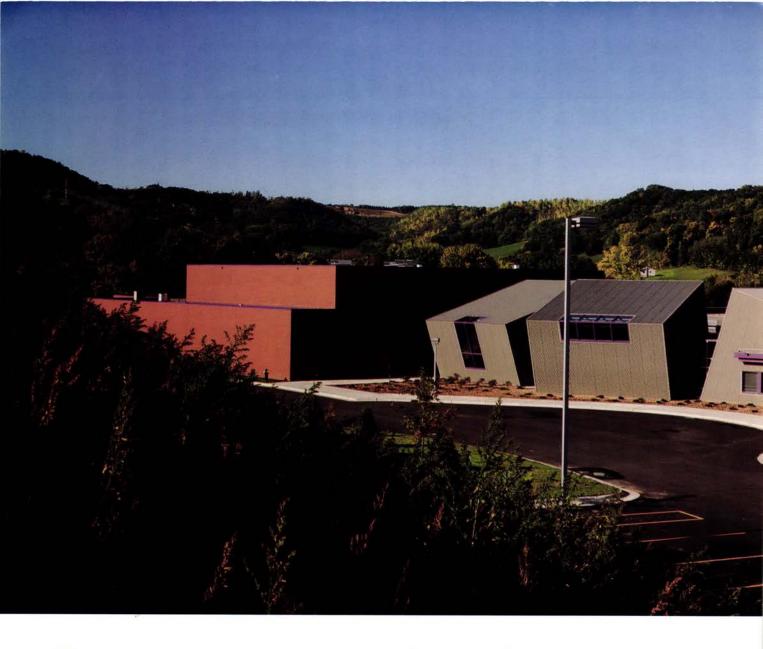
Things are changing. Administrators are recognizing that students are the primary client. Students need to feel that the school is designed for them and that the curriculum is planned for them. After all, school is where kids spend the greater part of their day.

> It's their home away from home. They need to feel they have control. In this issue, we feature a group of schools that reflects students' changing needs. Architects are designing schools that capitalize on team approaches to education. In this high-tech world, computer labs are as common today as typing labs were 20 years ago—even at the kindergarten level. But changes in school design go beyond the integration of computers into classrooms. Individual classrooms with four walls are being replaced with open rooms clustered around shared break-out spaces to encourage interdisciplinary approaches to education. (See Insight.) The word "house" keeps popping up when architects talk about school design, as with the Farmington Middle School or the Grant Park Center. Libraries have become media centers where students from all levels meet on common ground, as with the North Woods Elementary School.

> School design also is taking a greater interest in students' cultural heritage. The Mounds Park All-Nations Magnet School in St. Paul and the Fond du Lac Community College in Cloquet, Minn., reflect the student body's ethnic background. By recognizing ethnicity, schools recognize the importance of individuality.

> These seven featured schools share a common goal: to create environments in which children have a personal investment. That personal investment is the key to building better schools.

Eric Kudalis Editor



Breaking





dition

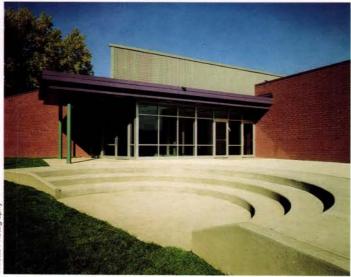
The North Woods Elementary School establishes a fresh architectural curriculum

he North Woods Elementary School in La Crosse, Wis., is based on a traditional model for school design, but it doesn't look traditional. That's because the clients wanted a school that would make a striking architectural statement.

"The clients wanted to push the look of the building," says Kevin Sullivan of Wold Architects & Engineers. "They wanted a school building that was going to be unique—and that gave us [the architects] more freedom to investigate design options."

Sullivan calls this a standard T-shaped building. Individually enclosed classrooms line traditional linear

By Eric Kudalis



atte Photography

The North Woods Elementary School in La Crosse, Wis., breaks from tradition with an eclectic mixing of geometric forms. Three metal-clad cubes (preceding top) house administration, music and art. A line of clerestory windows filters light into the main corridor (preceding bottom). A small amphitheater (top) serves as an outdoor classroom. Administration offices are next to the main entrance (bottom). circulation corridors instead of being clustered around shared breakout spaces, which is the emerging trend in primary-school design (see Insight). But that's where tradition ends. The architects needed to design for a 1990s curriculum, which calls for special education, large group instruction, media center, computer lab, outdoor classroom, school administration, music room and art lab.

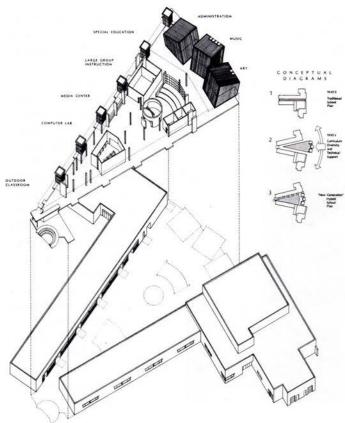
The architects took the T-shaped floor plan and split it down the middle, pivoting the two halves of the T outward. They then wedged a pie-shaped general-purpose area in between to house the media center, computer labs, and an informal gathering space and stage for large-group instruction. Classrooms with partially windowed fronts face the commons area and media center. Students from different grades can meet on communal turf, breaking down some of the barriers between age levels. The preschool and kindergarten, necessarily, are in a separate wing.

From the outside, the building strikes a pose between the traditional and the eclectic. The red-brick façade has a clean, modernist look, enhanced by a series of boxlike

> clerestories that march along the roof, feeding light into the corridor and classrooms. Contrasting from the staid brick facade are three metal-clad cubes tilted in different directions. Housing administration, music and art, the cubes' geometric posturings are meant to reflect the ever-changing nature of technology and curriculum, according to the architects. What they really do, however, is add visual excitement. suggesting motion and energy-qualities appropriate to teaching and learning.







The art studio overlooks an open field (above). Skewed windows add visual energy. The architects pulled apart the standard Tshaped floor plan and wedged the media center and other functions in between (plan below).



By Bette Hammel

Urban curriculum

The University of St. Thomas opens the books on downtown Minneapolis

Though in an urban setting, the University of St. Thomas's downtown-Minneapolis campus recalls traditional campus planning. A clock tower (above) faces the downtown core. The Lshaped building forms a courtyard (below and above right) where students can relax between classes. The main hall (opposite bottom) will feature a fresco ceiling by artist Mark Balma. he fact that the new L-shaped, 150,000-squarefoot University of St. Thomas building in downtown Minneapolis echoes the neo-Gothic architecture of the University's 107-year-old St. Paul campus is no accident.

St. Thomas's associate director, Marlene Levine, says that the University originally discussed building a contemporary structure, but soon dismissed that idea because of the

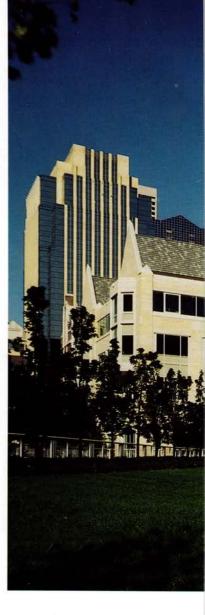


corporate image such a design could project.

Says Monsignor Terrance J. Murphy, chancellor of St. Thomas and its 25-year president, "We wanted a campus that was a true reflection of our University."

Though in an urban setting, the campus is very much modeled after traditional campuses. A 74foot-high clock tower, its clock-face numbers intricately carved in stone, helps set the proper collegiate tone while offering a gateway to the city. A series of gables marches across the roof line, reinforcing the Gothic design. The main entrance at 10th Street and LaSalle Avenue, set off by granite pavers to form a 10-foot buffer from the street. faces the city's business and shopping district.

The need for a downtown campus became clear in 1987 when, due to sharp growth in its graduate program in St. Paul, the Uni-



versity began offering courses for 285 adults in the former Powers department-store building in downtown Minneapolis. By 1992, more than 1,350 students attended classes downtown. The University envisions up to 4,000 graduate students to be enrolled on the new campus, focusing mainly on business, with some courses in education and technology. The downtown campus is unique in that most of its students are working adults, ranging in average age from 30 to 40.

The 28 classrooms, larger than your typical class-





rooms and offering wide tables and comfortable chairs instead of desks, are equipped with video monitors and facilities for teleconferencing. Other interior spaces include a hightech multipurpose auditorium seating 250, a cafeteria called Food for Thought on the second floor, a library and resource center, bookstore, several lounges, computer lab and audio-visual services.

One of the building's most striking features is the 2-story, rectangular atrium flanked by 12 columns and anchored by a Y-shaped stone stairway. The barrel-vaulted ceiling in the "Hall of Founders" will be painted by fresco artist Mark Balma (see Up Close). The design will incorporate the seven virtues—faith, justice, prudence, hope, temperance, fortitude and charity. St. Thomas's donors will be painted in fresco on the 12 columns, scheduled for completion in 1995.

As is, the building's neo-Gothic architecture is a reassuring urban presence, an academic oasis in downtown Minneapolis.

Bette Hammel is a Minneapolis-based writer.

Native American traditions

Fond du Lac Community College keys in on cultural diversity





By Richard (Dick) Cain



n 1978, when Fond du Lac Reservation leaders first explored the idea of establishing a college, they envisioned a tribal college, one like 25 others in the country that are tribally controlled, federally funded and focused on Indian students. What evolved from these early discus-

sions, however, is a unique institution

that blends the tribal model with the Minnesota Community College model. An official part of both systems, the new college receives federal and state financial support and operates under a power-sharing arrangement between the state and the tribe. Its dual character also is expressed in the curriculum and architectural design of the new campus.

Lester Jack Briggs, director of the college and a member of the Fond du Lac tribe, points out that the school offers Native American and nonnative American students the basic liberal-arts curriculum. The college also stresses Ojibway languages and culture courses.

Briggs says, "We want a duality here, a diversity. We want to serve the scholarship needs of all the students, and we want a college that serves all communities. We want it to continue to build bridges for creating sensitivity and understanding among all groups of people."

The bridge-building efforts between the tribe and the surrounding white community, though tense at times, brought community-college classes to the reservation's Ojibway school and then to Cloquet's old Garfield Elementary school. The next step was the establishment of a broad-based partnership that built the new campus, located just south of Interstate 35 at Cloquet, Minn. The new facility, by Thomas Hodne Architects, design architect, and Damberg, Scott, Peck & Booker, architect of record, accommodates 500 full-time students. It opened in 1992.

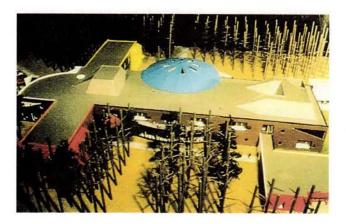
The Fond du Lac Community College in Cloquet, Minn., is built on a 38-acre, heavily wooded site. Through color and form, the architects pick up on Native American cultural symbols, while also incorporating symbols and forms that represent the heritage of the school's nonnative students. A circular domed amphitheater bisected by a 2story wall of glass (left and top) marks the building's front. The site is a 38-acre red-pine plantation donated by Potlach Corp., with sewer and water facilities supplied by the city of Cloquet and Carlton County. The state of Minnesota paid for the \$7 million building.

The challenge to the design architect, Thomas





The student center is housed under the circular dome (top). Seating provides for a scenic student lounge (above). The plan resembles a thunderbird (below), rooted in Native American symbolism.



H. Hodne Jr. of Winnipeg and Minneapolis, was finding a relevant and exciting architectural representation of the college's dual nature. Specific symbols and their possible architectural expression were generated in meetings between Hodne and the building task force. Elders of the Fond du Lac tribe advised them on native symbols.

Compared with the nonnative approach, Hodne says the native view tends to embrace nature more, and to utilize softer lines and shapes. The idea is exemplified by the circle, as opposed to finite lines, squares, rectangles and triangles.

The main approach to the college offers an immediate sense of the dual concept. A long sidewalk runs through the planted, evenly spaced red pines, providing the visitor with repeated visual flashes of lateral and angled lines. At the front of the building the circle is prominent in the domed amphitheater, which is bisected by a 2story wall of glass that forms indoor and outdoor sections. The



inside is the student center. This part of the building was inspired by the idea of the sacred circle, symbolizing continuity, community, the seasons, and the drum and its (heart)beat.

Other native symbols include the thunderbird (a sacred animal associated with thunder/heartbeat) which inspired the building's shape, as viewed from above; and red, black, yellow and white (the colors of the Fond du Lac tribe), each of which appears on a major section of the building.

The finite lines of the nonnative culture appear in a wide variety of square, rectangular and triangular shapes, including the windows. The "cross" site clearing recalls the grid and the Christian heritage of most of the area's nonnatives. The corrugated metal walls of some sections recall local farm structures.

Minimal trees were cleared from the site, with some used as exposed supports inside. Trees surround the buildings, except on the north, which allows a view of the administrative offices and library from the Interstate.

A day-care center at the back of the building brings together native and nonnative children in a circular motif, symbolically reinforcing the college founders' hope that these early connections of children will continue into their adult lives.

Richard (Dick) Cain is a free-lance writer and photographer who lives north of Deer River, Minn.



he Grant Park Early Childhood Family Development Center on Minneapolis's north side is an educational home for many of the city's economically disadvantaged preschoolers. Designed by Setter, Leach & Lindstrom, the 58,000-square-foot facility houses several child-service organizations, including administrative offices for Parents in Community Action Inc. (PICA), the federally funded Head Start grantee for Hennepin County. In addition, the facility offers room for Way to Grow, Mary T. Wellcome Child Development Center, The Family Service Center, and Minneapolis Public Schools programs. It also provides on-site dental and medical care.

Though the size may seem foreboding to a child, the building is broken in several smaller units. Different programs are sectioned into separate zones. Head Start has 14 classrooms and a "muscle area"—or play and exercise area—on the west half, while Mary T. Wellcome has six classrooms and open muscle area for day care on the east half. The rest of the structure houses administrative offices, a cafeteria with a curving window wall overlooking the landscaped playground, and a large general-purpose room called Harris Hall, which can be divided into thirds.

The building responds to the neighborhood by evoking an image of home. The curving, aluminum-clad front entrance, architect John Litchy says, orients children to the city by angling toward the downtown skyline. Its geometry reflects the round church across the street. A series of gables painted bright primary colors marches along the front, each defining a commons area, or "house." Homes once dotted the site before urban renewal moved in some 20 years ago, and the gables help rekindle the residential past. The architects continue the residential tone inside, with roof forms above doors and parklike lampposts in the exercise areas.

For young children and their families, the Grant Park Center is a welcome addition, an inviting place where many of their child-care needs can be met. *Eric Kudalis*



Lampposts in the "muscle area" (top) pick up on the residential character established by the gabled exterior. A clown's face highlights the play area in the Mary T. Wellcome day-care center (above).



Strictly science

The Ardolf Science Center mixes the right chemistry for good design

The Ardolf Science Center offers a traditional architectural presence (above and below) on the St. Benedict campus, reinforcing an emerging quadrangle. The interior is strikingly minimal. A granite stairway with stainless-steel railings (opposite) leads to the second level, highlighted by a glass-block floor (right).

The new Ardolf Science Center, designed by Grooters Leapaldt Tideman Architects of St. Cloud, Minn., and Perkins & Will of Chicago, occupies a key site on the St. Benedict campus, a Catholic women's college 75 miles northwest of Minneapolis. Located on the north end of campus opposite the new library, the building helps set the stage for a developing formal



quadrangle. In time, according to a master plan devised by Grooters Leapaldt Tideman, other buildings will define further the north campus's edges, establishing a new entrance and community focus for the college's 1,800 students.

Not a trend setter, the 2story Ardolf Science Center further enhances the college's established architectural character. A highpitched gabled roof is in scale with the other buildings, while the red-brick façade with precast-concrete banding offers a sturdy and distinguished campus presence, a perfect anchor to the quad.

The 42,857-square-foot chemistry building is divided into three separate sections to house faculty offices, laboratories/curriculum support and general classrooms. A sky-lit circulation spine cuts through the building, separating the high-traffic classrooms from the laboratories and offices.

As the main circulation corridor, the spine connects with a secondary corridor leading to the labs and offices. It also serves as a campuswide pedestrian street that links up with



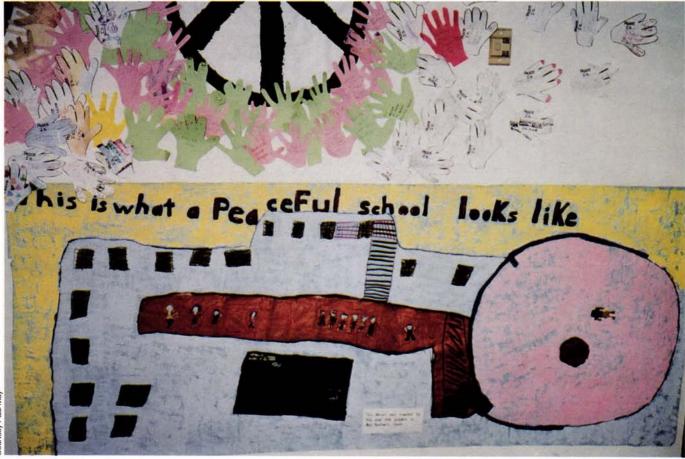
other buildings. Students can leave the library, for instance, pass along an outdoor courtyard and cut through Ardolf on their way to the student center or Henrita Academic Building. Students from nearby St. John's University also use the building.

The spine is the architectural center of the building, filled with light reflecting off the metal and glass surfaces. The interior is starkly beautiful and expressive of its materials. A granitetread stairway with stainless-steel railings and perforated-metal risers leads to the upper corridor, where a glass-block floor is framed in a metal grid. Walls and exposed ducts are washed in white, a clean aesthetic appropriate Eric Kudalis to science.



CULTURAL SYMBOLISM

An architect and school principal discuss the influences of Native American traditions in the design of the Mounds Park All-Nations Magnet School



Students drew their interpretation of a "peaceful school" (above). The circle, an important form in Native American culture, is incorporated into the school's addition (above and right). A limestone, wood and steel sculpture by Navajo artist Jake Castillo stands in the school's commons area (opposite).



By Cornel Pewewardy and Paul G. May

he four seasons—the four directions—messages of the Great Spirit, inspired Native American people to build homes that had purpose and meaning tied to nature. Many Native American people say, "You will know us by our homes."

As the Mounds Park All-Nations Magnet School was being built in the spring of 1991 on St. Paul's east side (near the Native American burial grounds within Mounds Park), the St. Paul architectural firm of Winsor/Faricy and the

school's newly selected principal focused on the different forces that shape Native American architecture—from economic and ecological to the social, technical, historical and spiritual.

Winsor/Faricy worked with school officials, neighborhood residents, parent groups, teachers and students of the American Indian Magnet School Program and the World Cultures and Languages Magnet School Program to develop a design reflective of their unique needs. Group meetings were opportunities to establish a spirit of belonging with the new school, and to exchange and share histories and visions for the place. The philosophical goal was to place education into culture rather than continue the practice of placing culture into education.

The circle is a sacred symbol of life to Native Americans. Sections within the circle are all connected to each other, and what happens to one section is affected by the other. Black Elk, who belonged to the Oglala division of the Teton Dakota, one of the most powerful branches of the Siouan family, discusses the circle in his 1931 autobiography:

You have noticed that everything an Indian does is in a circle, and that is because the Power of the World works in a circle, and everything tries to be round. In the old days when we were a strong and happy people, all our power came to us from the sacred hoop of the nation and so long as the hoop was unbroken the people flourished. The flowering tree was the living center of the hoop, and the circle of the four quarters nourished it. The east gave peace and light, the south gave warmth, the west gave rain, and the north with its cold and mighty wind gave strength and endurance. This knowledge came to us from the outer world with our religion. Everything the Power of the World does is done in a circle. The sky is round and I have heard that the earth is round like a ball and so are all the stars. The Wind, in its greatest power, whirls. Birds make their



nests in circles, for theirs is the same religion as ours. The sun comes forth and goes down again in a circle. The moon does the same, and both are round.

Even the seasons form a great circle in their changing, and always come back again to where they were. The life of man is a circle, the nation's hoop, a nest of many nests where the Great Spirit meant for us to hatch our children.

The Medicine Wheel Circle is a vital part of the Northern and

Southern Plains Indian cultures, as well as other tribal cultures. The sacred circle provides the basic foundation for spirituality, family structure, gathering of people, meetings, songs and dance.

Each of the four cardinal directions of the circle represents one of the elements of the Universe. For people who recognize this holistic unity, the natural forces of the universe inspire a wholeness of being. The world view of Native Americans holistically interrelates all components of life. Tribal structures of life cannot be fragmented due to the intrinsic binding and interconnecting power of the sacred circle. The symbolic strength of the circle was translated into the design approach and the resulting built form of their architecture.

According to Peter Nabokov and Robert Easton in their book, *Native American Architecture*, the term architecture refers to more than just the design and decoration of buildings. It embraces what happens whenever human thought or action makes order and meaning of random space: naming places, designating sacred parts of wilderness, clearing village areas and garden plots, claiming food-gathering areas, planning and constructing buildings, and arranging the spaces that surround and connect them. Finally, it includes the often unseen social and religious meanings that are encoded into buildings and spatial domains.

The new All-Nations Magnet School is located within a historic 1924 school, left vacant for nearly a decade. While there were some proponents of tearing down the

Continued on page 65



TRANSITIONAL S T A G E S

A new middle school personalizes education

he Farmington Middle School, designed by Armstrong, Torseth, Skold and Rydeen for grades six through eight, takes a homelike approach to education. Classrooms are clustered into six "houses" for 150 students each.

Following a national trend, the clustered-classrooms concept creates smaller groups that enable a more personalized educational experience between student and teacher, according to the architects.

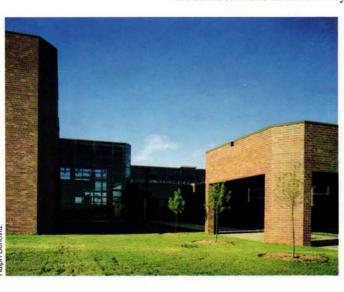


The 190,000-square-foot facility is designed for interdisciplinary team teaching, with shared commons areas for teacher preparation, homeroom activities, language arts, math, social studies, and special-education classes. Students remain part of the same house for three years, enabling them to develop friendships and responsibilities in an environment in which they have some control.

> "The house concept becomes a transitional place for students moving from elementary school, where they are nurtured, to high school," says William Snyder of ATS&R. "It gives them the support they need."

> The new \$15 million facility is a state-of-the-art contrast to the former middle-school building, originally built in 1913 and added onto in several stages. Old desks and creaky wooden floors

The 190,000-square-foot Farmington Middle School has a clean exterior of brick and glass (opposite). Large windows in the library (above) and by the main entrance (below) offer plenty of light to interior spaces.





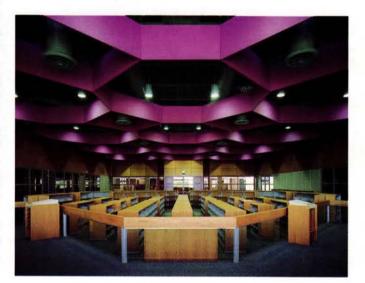
The architects let the students choose color schemes for the exposed mechanical systems (opposite and above). The library features a colorfully painted ceiling (right). A central corridor, or mall, ties together the school's separate components (plan below). were replaced with two computer rooms, modern science labs, and video hook-ups in each classroom. The facility is divided into five components, incorporating a 2-story academic wing, plus an industrial arts/music/home-economics wing, physical education area, cafeteria, and administrative/media center. Each component stands as an individual building, sheathed in glass and brick. A staircase connects the classroom building to a mall-like concourse, which serves as the major circulation spine that links the five sections.

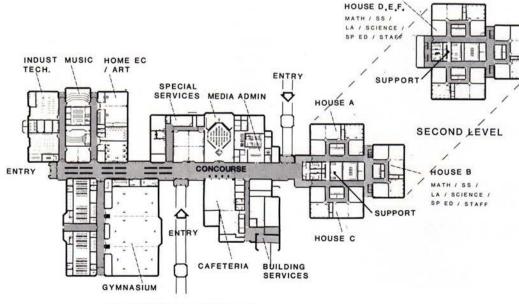
The mall is the heart of the school and serves as a casual gathering spot. Floor-to-ceiling windows by the entrance and main stairs, along with clerestories running the length of the spine, keep the space bright. The mechanical systems and structural supports are left exposed, thus increasing the openness with high

ceilings. Color adds visual interest. In fact, the architects

let the students participate in the design process by having them choose from two different color schemes for the main hall. They thus chose to paint the exposed ducts, piping and steel supports in subdued tones of purple, green, yellow, burgundy and blue. The media center, too, is enlivened with a patterned green and purple ceiling.

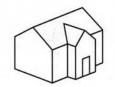
For the students, the new school is a place that they can indeed call home. *Eric Kudalis*

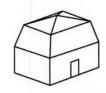


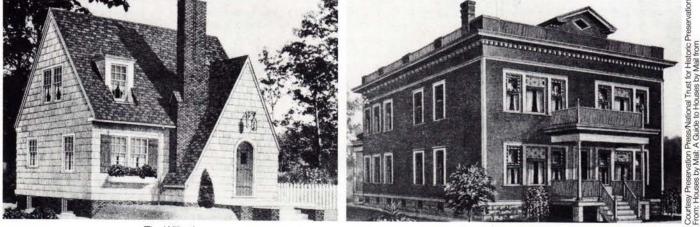


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Houses by mail

In the mail order heyday of Sears, Roebuck and Company, the retail giant delivered everything you needed for the family house including the house

By Camille LeFevre

In Buster Keaton's film classic, One Week, the protagonist and his bride purchase a mail-order house from the Portable House Co., guaranteed for easy assembly in seven days. A rival, however, gets to the railway station before the newlyweds and changes the numbers on the crates in which the parts have arrived. One week later, the couple's ramshackle abode has a buckling roof and sagging porch, and curtains billow from ill-fitting windows.

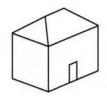
Inspired by a documentary film promoting mailorder houses that could be purchased complete and built in a week, *One Week* must have delighted turnof-the-century movie goers and mail-order home owners alike. Because in the late-19th and early-20th centuries, the Hodgson Company, Alladin Homes, Montgomery Ward and Company, and Sears, Roebuck and Company all entered the mail-order housing business. In this endeavor, as with catalog sales, Sears was the undisputed leader.

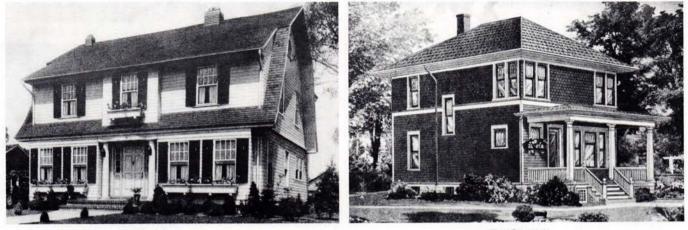
Between 1908 and 1940, more than 100,000 American families turned to Sears not only for items to fill their homes, but for the houses themselves, according to Katherine Cole Stevenson and H. Ward Jandl, authors of Houses by Mail: A Guide to Houses from Sears, Roebuck and Company. During the years its catalog Modern Homes was published, Sears displayed approximately 450 ready-to-assemble designs. These designs varied from two-room cottages to 10-room residences in a range of architectural styles, including colonial, Spanish, Queen Anne, Cape Cod, split level and even prairie-school style.

Designed by company architects for broad appeal, Sears houses largely followed rather than established architectural styles. Yet in true wish-book fashion, the houses carried attractive, fanciful names. By marketing mansions like "The Magnolia" and bungalows like "The Avondale," summer cottages named the "The Skywater" and apartment complexes called "The Calumet," Sears forged the 20th-century concept of the American dream.

"After the depression of 1893, development in metropolitan areas started to expand with the streetcar," says Charlie Nelson, the state historical architect with the Minnesota Historical Society in St. Paul. Land was cheap and companies like Sears decided to "produce as many







The Amsterdam

The Glendale

as they could as fashionably as they could. To buy a parcel of land and order a house from a catalogpeople were ready to jump at that."

As an added incentive, Sears's financing plans often included loans for the lot and labor, as well as the house. Ranging in price from \$200 to \$3,500, the houses were manufactured by Sears and ordered from Sears representatives. Parts were loaded into boxcars and shipped by rail, mainly throughout the Midwest and Northeast. Shipping dates were staggered so materials arrived when needed. Building paper, nails, lumber and frames came first: millwork and the laundry tub arrived last. According to Stevenson and Jandl, "the number of separate parts, not including nails or screws, averaged about 30,000 in an ordinary house" and prairie foursquares were "a typical Sears house, also "this nation's first

houses as they could as fast unassembled, could fit into two boxcars." Sears provided detailed construction manuals, and at the customer's request would arrange for local contractors and supervise construction.

> The popularity of Sears's low-cost, mass-produced houses "reflected a brandnew type of consumerism" in America, Nelson says. "Middle-class working families had an opportunity to take their savings, purchase some land, become a home owner and achieve a newfound respectability. Buyers felt comfortable because they would fit in and their house would fit in. None of these houses were sore thumbs or reflected conspicuous consumption. They reflected sturdiness, acceptability, quality construction at low price. They showed good clean living and that the owner had achieved middle-class status."

Sears's bungalows and

American-inspired residential architecture," savs Robert Roscoe, of the architecture firm Roark, Kramer, Roscoe Design, and commissioner of the Minneapolis Heritage Preservation Commission. "Sears bungalows were inspired by high-style bungalows designed by California architects Charles and Henry Greene in the early-20th century," he says, whose style promoted "a democratization of architecture" over a European "privilegebased pretension."

Prairie foursquares were an outcome of balloon framing, invented in the Midwest in the 1830s. Roscoe continues. "In the Midwest, previous architectural styles came in the suitcases of New England transplants who had more European values. Germans and Scandinavians who settled here had more of a sense of practicality, and Sears homes appealed to their sense of utility and economy. In this way a foundation of an American style was laid, meaning the bungalow and the prairie foursquare were the first architectural styles that were homegrown rather than derived from European influences." People who purchased these homes, he adds, "wanted to be modern, they wanted to say 'we're home in America and we don't have to pretend we're immigrants anymore.""

Mail-order houses on the grand scale Sears offered are no longer available. But today "you can find the grandson of the Sears house in Lino Lakes or Eden Prairie," Nelson says. Dream homes within economic reach of today's consumers, produced through such companies as **Rottland Homes and Life** Time Homes, are available through contractors. If it's a wish book you want,

Continued on page 66

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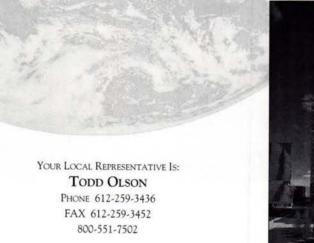
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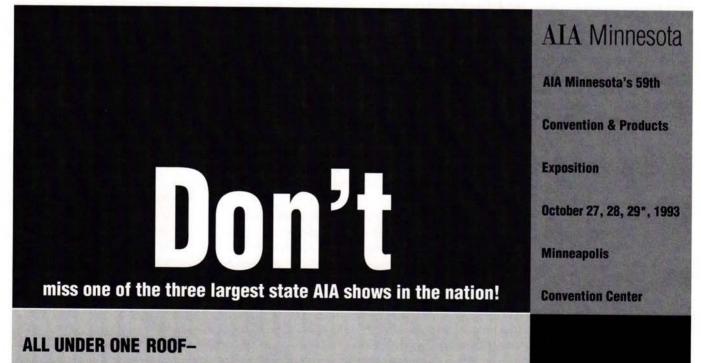
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The Berman Buckskin Building and the Wisconsin Central Freight Station, Minneapolis.

There were two giants of reinforced concrete engineering just after the turn of the century. In Europe it was the Swiss engineer Robert Maillart, who designed a number of elegant bridges. In America it was C.A.P. Turner.

The development of the first flatslab structural system that began to use the unique advantages of reinforced concrete was the work of a Minneapolis engineer-Claude Allen Porter Turner (1869-1955). Concrete as a building material has been used since ancient times, but it was only during the last half of the 19th century that steel began to be combined with concrete to compensate for its inherent lack of tensile strength. By 1895, buildings that were strong, stable and fireproof began to appear using steel-reinforced concrete. These early experiments, however, duplicated the forms used for timber and cast-iron construction with columns and lintels, thus making them grossly overbuilt.

By 1903 Turner had theoretically determined that the bending stresses within a building could be transmitted to the floor from the column by tying the floor directly to the column in both directions with steel reinforcement. The omission of the beams would allow a greater ceiling height to a building with a given floor-to-floor height. The windows could be larger and the form work was simpler.

To compensate for the shear stresses that would concentrate around the columns and try to punch them through above, Turner enlarged the columns' capitols, producing the visual effect that gave the system its name—the "mushroom slab." It was a structural system that was possible in no other material and was the first use of concrete in a way that would appeal to the "form follows function" aesthetic of the growing modern movement. In Switzerland, Maillart would develop the same system after 1910.

There are a number of reasons why Turner is not well known today for his accomplishments. In 1916 he lost a court battle over the patent rights to the mushroom-slab system, which forbade him from further using his system. He was also a conservative in the forms he chose because he felt that a structure had to look substantial and traditional to achieve public acceptance. This may be best seen by contrasting the thin arches and the startling lightness of the bridges of Maillart to the Mendota Bridge that Turner designed, which bears a heavier appearance in its attractive but traditional forms.

The first building to use the mushroom-slab technique was the Bovey-Johnson Building in Minneapolis in 1906. The following year the Wisconsin Central Freight Station was built using the mushroom-slab system to support its driveway. The Bovey-Johnson Building is gone but the Wisconsin Central Freight Station survives as one of the earliest examples of a structural system that began to revolutionize the use of concrete. It may be an important enough structure to warrant designation as a National Historic Landmark for its place in the history of engineering. But the Wisconsin Central Freight Station, the long warehouse building on West Hennepin and the Mississippi River, will be torn down with the Berman Buckskin Building and a number of other 1880s buildings to make way for the new Federal Reserve Bank Building. Steve Buetow

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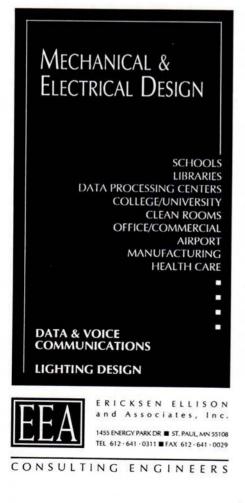
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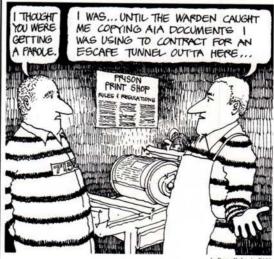
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These two projects examine the structure of office buildings.

Compiled by Tad Gloeckler and Tony Rauch

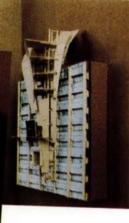
Office addition by Tony Rauch

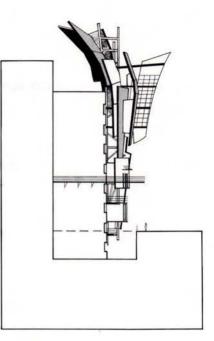
This addition rises up over the site like a torch. As it hangs off the existing building, its flamelike pedals open up like a flower, revealing windows. The rooms

are strung vertically along the elevator shaft to block as few existing windows as possible, contrasting



as few existing windows as possible, cont the boxiness of the original building.



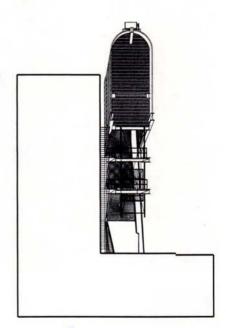


Office building by Dan Noyes

The analysis of everyday objects created a method for investigating the formal structure of a small office building to be placed on a 12-foot-deep by 60-



foot-long sliver of land. Office functions such as work stations and filing cabinets are lined on 8-footwide floors that are then stacked like shelves. The thin buiding is placed 4 feet from an existing structure to create an interior light and stairwell between the two buildings.



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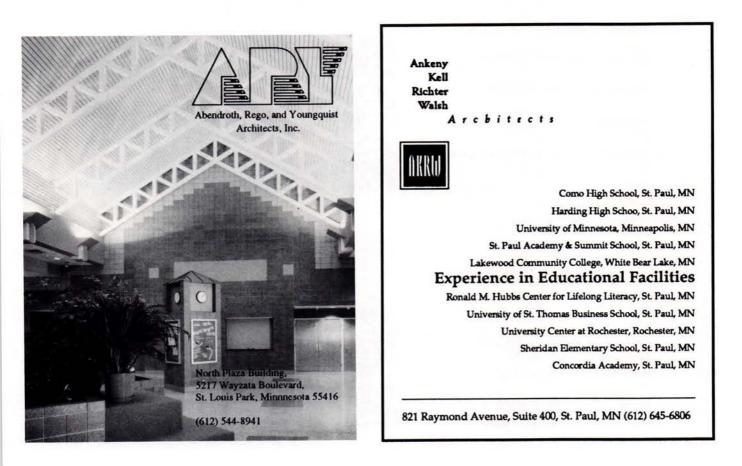
Learn from our "Yearbook"

Minnesota has a rich tradition in the design of outstanding academic facilities, a tradition that continues today. And, of course, only a small glimpse of that tradition can be editorially highlighted in any single issue of *Architecture Minnesota*. Therefore, for this special issue of AM, we invited all Minnesota firms to share their school design expertise with our readers.

The "School Yearbook" on the following pages will introduce you to the broad range of Minnesota firms that are actively involved in the design of academic facilities. Yes, they've provided financial support for this introduction, but AM readers can study this "Yearbook" and be confident that they've become acquainted with the true breadth of talent that characterizes Minnesota's design community. We invite you to examine and enjoy the images of Minnesota design firms presented on the following pages. And, when it comes time to find a firm for your own special school or college project, be sure to consider these firms, all of which are owned and operated by members of AIA Minnesota, our state's Society of the American Institute of Architects.

If your institution or school district needs assistance in finding an architect and utilizing a fair and thorough selection process, please contact AIA Minnesota, 275 Market Street, Suite 54, Minneapolis, MN 55405, 612/338-6763. We have brochures and suggested selection methods that can save you time and money as well as enable your school district or college to find just the right architect for your project.

Peter Rand, FAIA Publisher



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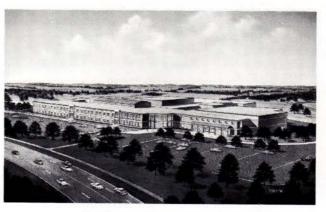
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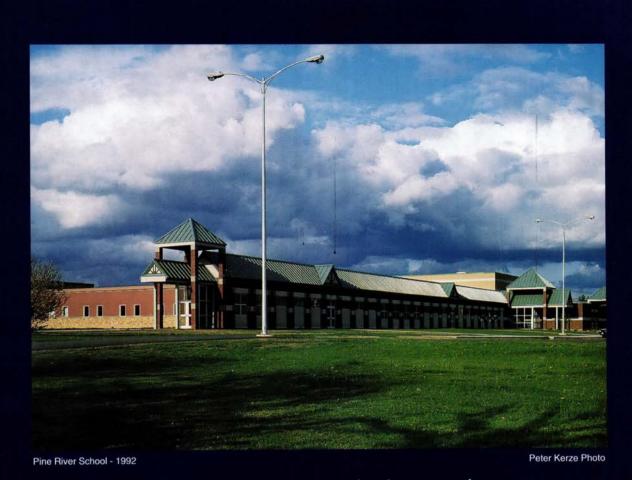


Champlin Park High School



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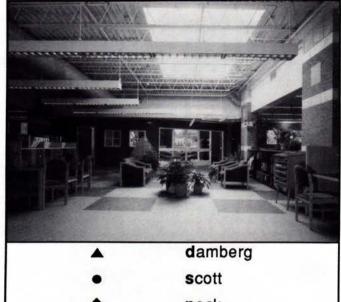
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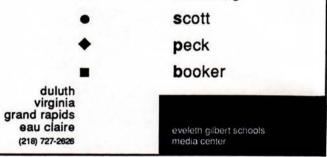
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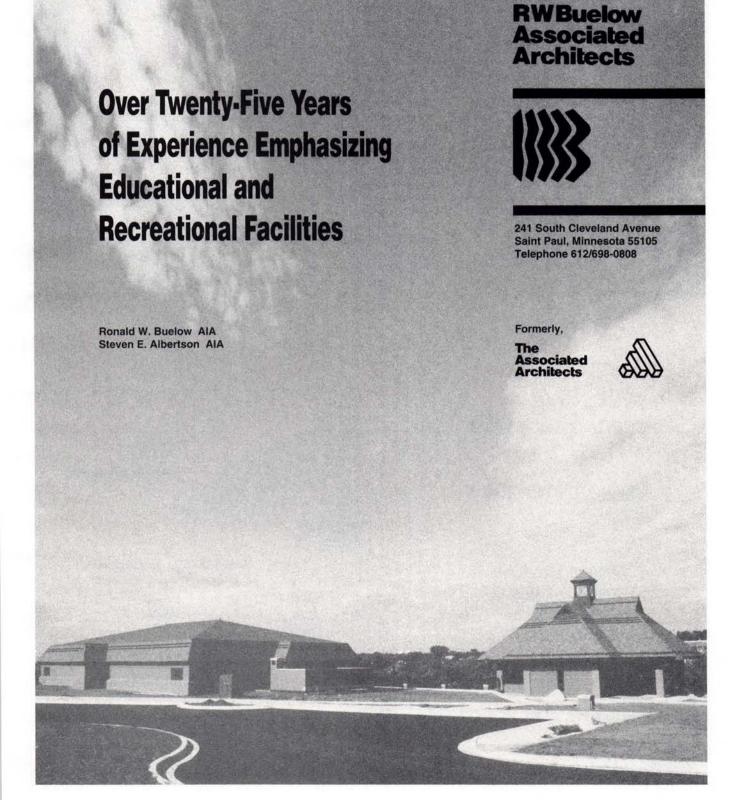
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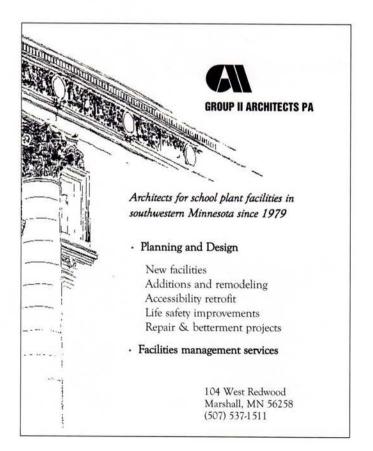
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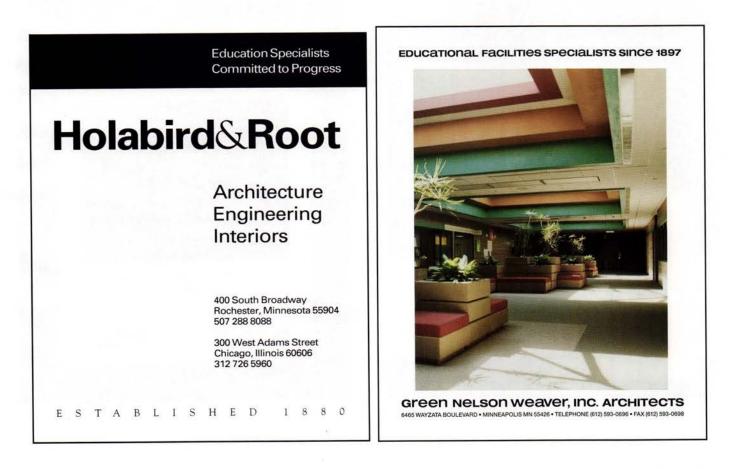


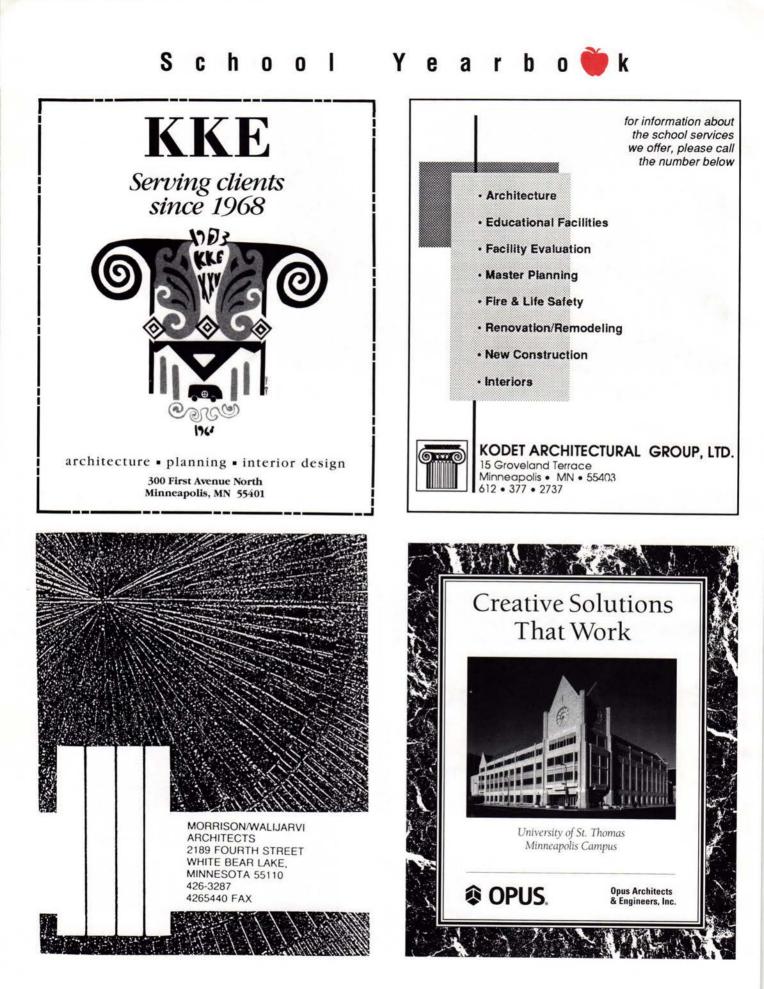
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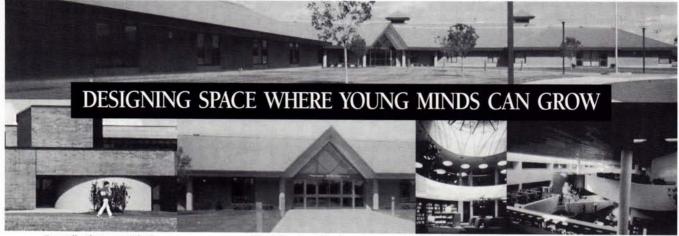
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School Yearbo 🔴 k



Burnsville Elementary School

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Marshall High School

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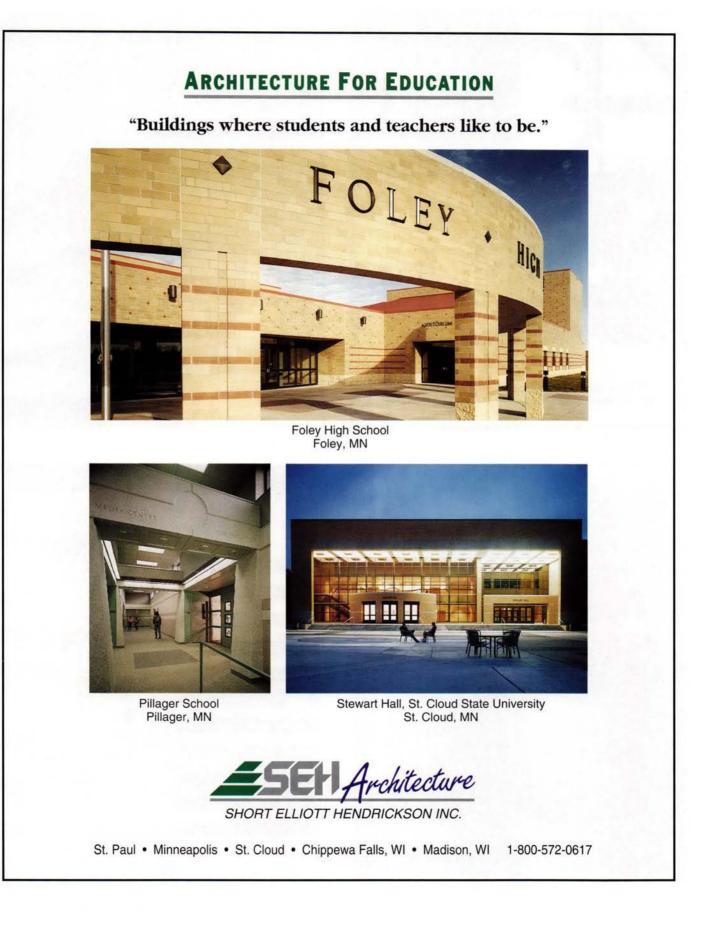
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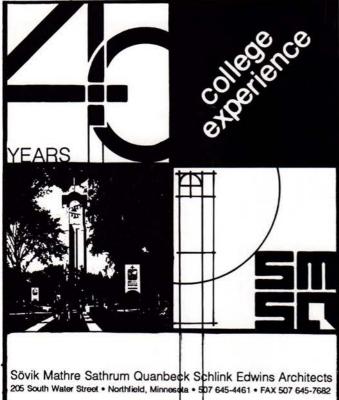
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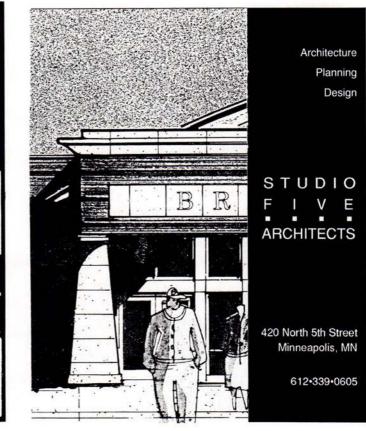
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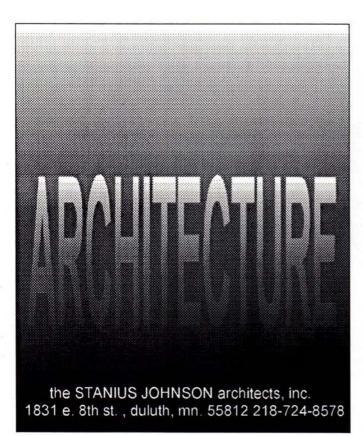


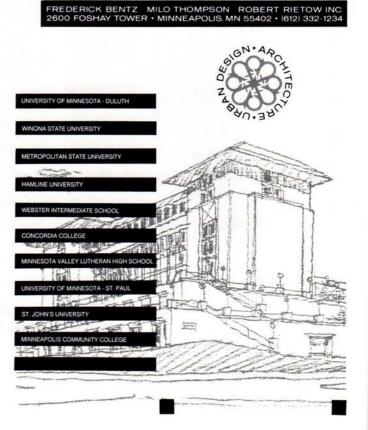


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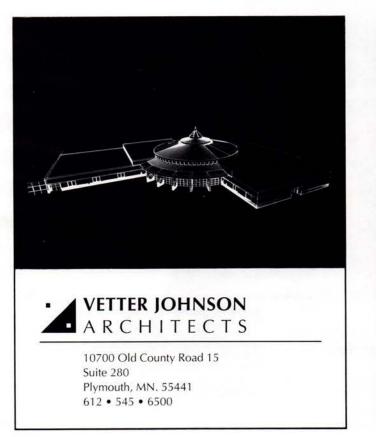
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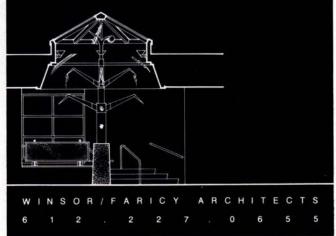
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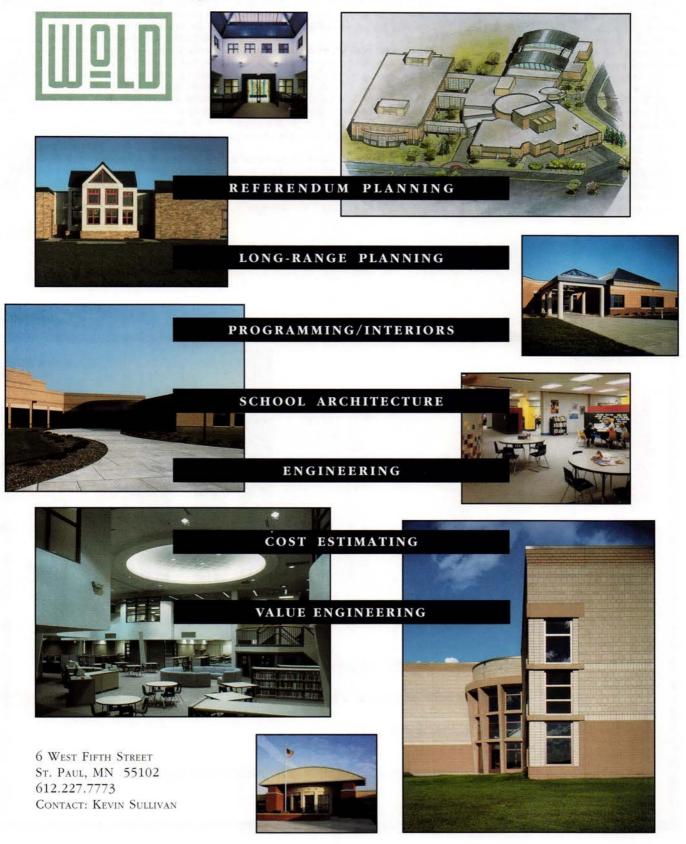


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WOLD ARCHITECTS AND ENGINEERS

young architects

Continued from page 7

which she collaborated with architect Vince James.

Soranno has worked for several Minnesota architecture firms. and she contributed to the design of some of the state's most important recent buildings. At Hammel Green and Abrahamson, she worked where from 1986-1990, she was involved in the winning competition for the **Minnesota History Center and** was a team member for the design-development and construction-documentation phases of that building. In 1991, she moved to Meyer, Scherer and Rockcastle, where she contributed to the soon-to-be-completed

University of Minnesota Frederick R. Weisman Art and Teaching Museum, designed by Frank O. Gehry of California. For James/Snow Architects, which she joined in 1992, she was involved in the design and documentation of the St. Paul Children's Museum, by James/Snow and The Alliance.

Soranno is also an accomplished watercolorist. She's exhibited her art at the University of Minnesota, the Minnesota History Center, Thompson Gallery, Landmark Center, the Minneapolis College of Art and Design, and the University of Wisconsin-Milwaukee.

"Watercolors have become a valuable tool in my design process," Soranno says. "By experimenting with both classical and abstract watercolor techniques, ideas about light, form, material and color can be explored in a 2dimensional medium."

The other two young architects cited were Brett Keath Laurila, from Venice Beach, Calif.; and Thomas Somerville Howorth, president of AIA Mississippi.

In its first year, the Young Architects Citation seeks to identify emerging architects who have excelled in architectural design, education and/or service. Recipients must be AIA members who have been licensed for less than 10 years. Jurors included Harry Robinson, dean of Howard University's architecture school, Washington, D.C.; Sylvester Damianos, former AIA president from Pittsburgh; and Douglas Austin, AIA Board of Directors member from San Diego. AM



previews

Continued from page 9

Five Jerome Artists MCAD Gallery Minneapolis Through Oct. 7, 1993

Recipients of the 12th annual Jerome Fellowship program will display their art. This year's artists, who reside in the Twin Cities, are Angela Dufresne, painter; Tim Jones, painter; Chris Larson, sculptor; Andrea McCormick, sculptor; and Shawn Smith, photographer. The fellowship supports emerging artists by providing financial aid, as well as exposure and critical input. The winners were selected from a field of 230 applicants.

For more information, call MCAD at (612) 874-3785.

Alfred Stieglitz's *Camera Notes* Minneapolis Institute of Arts Through Oct. 10

All 91 photogravures from *Camera Notes*, a journal representing the formative stages of Stieglitz's career as an editor-photographer, will be displayed in this exhibit. Produced between 1897 and 1903, it is the artist's first consistent argument for photography as art. Also included are pieces by Charles I. Berg, F. Holland Day, and Rudolf Eickemeyer Jr.

For more information, call (612) 870-3000.

1993 Remodelers' Show Baltimore Convention Center Baltimore, Md. Nov. 5-7, 1993

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The Institute's plans to renovate, expand and reinstall its permanent collection are showcased through a series architectural models, photographs and wall diagrams.

For further information, call the Art Institute at (612) 870-3000.

From Mars to Main Street: American Design, 1965-1990 National Building Museum Washington, D.C. Through 1993

Design is everywhere in our culture, from postage stamps to interstate highways and space-pressure suits. But why do things look the way they do? This exhibit explores the role government plays in the range of public-design projects, from the spacecraft Viking Lander to park benches along the main street of Georgetown, Texas. Some of the exhibit products are familiar, others obscure, but all reflect our social and cultural values and national image over the past 25 years.

For more information, call (202) 272-2448.

A House for Us All National Building Museum Washington, D.C. Through 1993

Puerto Rican artist Antonio Martorell has created 12 richly fabricated installations that evoke both the physical and emotional fabric of houses. The installations represents Martorell's association with houses ranging from personal recollections of his childhood homes to such issues as migration and eviction. The installation *Kamikaze*, for instance, pays tribute to the makeshift home his family lived in after its eviction, which consisted of several mattresses in the back of his aunt's store.

For more information, call (202) 272-2448. AM

up close

Continued from page 13

The design process started by transferring "cartoon" outlines to the ceiling through "pouncing," which leaves a series of pinpoints that are connected with red ocher. Using the ocher lines as a guide, Balma applied fresh plaster daily to ceiling sections, ranging from one square foot to 10 square feet. Pigments were mixed in before the fresh plaster dried in order for the plaster to absorb the color.

The challenge of fresco painting is

that "it is very unforgiving," Balma says. A fresco artist needs to be decisive. Once the pigment is applied there are no changes.

Balma combines his knowledge of fresco technique with an awareness of imagery. For the St. Thomas

project, he built his own visual vocabulary to cross over cultural boundaries.

To express "faith," for instance, Balma used a turtle because of its importance as a creationist symbol in many religions. In addition, the turtle will appeal to children, who will connect it with turtles from story books.

Other multicultural symbols include a dragon and an eagle. By adapting the seven virtues to a multicultural society, the University integrates instead of imposes its ideals on the surrounding community, Balma says.

"The world is becoming smaller," he says, "and the message must get bigger and be less site specific." Frescoes, he says, are the perfect way for architecture to communicate a message.

Says Balma, "There is something [frescoes do] to buildings to make them less expendable."

John Manning is a writer with Skyway News. AM

The challenge of fresco painting is that "it is very unforgiving."

insight

Continued from page 17

With subsequent projects, Wold standardized the classroom's dimensions to 24 feet wide by 37 1/2 feet deep. This also has led to improved operating efficiency of the building as a whole. Traditional 30-by-30-foot classrooms require 30 feet of corridor space per classroom, which is 180 feet of corridor for six classrooms. By contrast, rectangular (24by-37 ¹/2-foot) classrooms require only 24 feet of corridor per room, totaling 144 feet for six rooms. This 24foot reduction in corridor length translates into savings during construction, reduced mechanical and electrical systems, and ultimately decreased maintenance and operating costs over the building's life.

And, of course, it decreases circulation distance as well.

Increasing class size, a growing emphasis on individualized instruction. the need to introduce new technologies, and the requirements of team teaching can create space demands that overwhelm even the most innovative classroom. While these pressures are crowding classroom space, many schools continue to be built with corridors dedicated solely to circulation. Using the rectangular classrooms as a building block, schools can achieve new efficiency by introducing threewalled classrooms with the corridor as a breakout support space available to each classroom. This extends the classroom beyond the traditional closed four walls. Corridors can now be used for additional educational purposes, housing such tools as computers. The open rectangular classroom plan also introduces interactive educational opportunities between different classes.

Further benefits of the rectangular design become apparent as individual classrooms are configured into "houses" or modules within the school. Each of the modules at Washington Elementary School—designed by Wold and due to open this fall in South St. Paul—consists of three, three-walled classrooms that open into a 1,000-square-foot common resource area that has computers, small group study areas and specialeducation resources. Because the individual classrooms are deeper than they are wide, the opening into the commons area is narrower and the relative privacy of each classroom is greater than would have been possible if three-walled square classrooms had been used.

The middle-school concept has a greater effect on facilities than any other educational philosophy. As educators strive to create nonintimidating, noncompetitive environments for students, the demand on the building structure increases. Eagan Middle School—slated for opening in the fall of 1994—addresses these demands through the creation of eight identical houses or "schools" within the building.

Like the elementary house, the core of the middle school is a series of rectangular classrooms opening into a common resource area. However, to accommodate the greater depth of the middle-school curriculum and to support collaborative staffing techniques and an interdisciplinary instructional philosophy, several other spaces must also be incorporated into each house. Two conference spaces and a centralized planning/storage area facilitate staff cooperation, provide isolated space for individual student instruction and allow parent/teacher conferences to be held within the confines of the house. A centralized computer room ensures efficient and continuous usage of technological resources. A large flexible classroom space that can be divided in two provides generic lab space that supports the study of sciences and permits flexible scheduling.

The result is an educational environment that supports team teaching and maximizes the opportunities for individualized, interdisciplinary instruction across the entire curriculum. With the exception of physical education and lunch, all student and staff activities occur within the confines of the house.

Despite the architectural changes occurring at the elementary and middle-school levels, innovations have been slower to emerge at the highschool level. Elementary and middleschool teachers have been quick to embrace an interdisciplinary approach to education. But the level of subject-specific detail in high-school curriculum poses unique challenges to the interdisciplinary approach. These challenges are intensified by the fact that the depth of the curriculum varies considerably depending on grade level. As students move through high school, they must be transitioned from a broad interdisciplinary environment into an elective curriculum of highly specialized applications.

Yet there are places for change. At Lakeville High School, slated to open this fall. Wold designed science labs for flexibility. These new generic adaptive labs are designed to be reconfigured to accommodate the subject-specific equipment necessary for advanced instruction in everything from life skills to science. Although it takes several days to convert a lab, the ability to do so without having to rework the architecture has enabled Lakeville to abandon the tradition of grouping subject departments together. This dissolution of department boundaries means that lab spaces can be clustered to achieve mechanical efficiencies in terms of plumbing and wiring. In addition, dissolving rigid architectural boundaries between departments and the clustering of lab spaces also promises to lessen academic "turf battles" and act as an aid toward more interdisciplinary instruction at all grade levels.

These examples suggest the valuable contribution that school design can make to educational reform. But such contributions can be made only if reform first has been embraced on the philosophical level by staff and administrators, and if those with philosophical ownership are intimately involved in the planning process. Under such conditions, school design can be among the most powerful allies in the battle for educational reform.

Kevin Sullivan is a principal with Wold Architects & Engineers. AM

cultural symbolism

Continued from page 35



A patterned ceiling in the circular "All-Nations Room" is surrounded by clerestory windows. The All-Nations room serves as the cultural meeting place, a "home" for students and teachers.

building and starting anew, the decision to regenerate this building grew out of understanding the Native American beliefs. Tearing down would have been wasteful of resources and disturbed the balance with nature. Tearing down would have been denying the strength of previous students and teachers.

By regenerating, a respect for one's elders is established and each generation can build upon the knowledge passed on. Regeneration also respects the physical context of the neighborhood, where this 3-story school had been a landmark. The resulting continuity of past and present reinforces the educational philosophy of the school.

Thus, the existing 80,000-squarefoot structure would incorporate a new 16,000-square-foot addition.

The "All-Nations Room" is the school's cultural meeting area, serving also as a neighborhood center and "home" for students and teachers. The circular form has surrounding clerestory windows. The eastern semicircle has additional windows addressing the sunrise, the symbolic beginning of each new day. Food, symbolized by the color brown (buffalo), relates to the northwest direction, where the kitchen is located.

The relationship of nature to building is reinforced through numerous other elements. The school's color palette is earth tones, turquoise, terra cotta, maroons. The "Journey Wall" is constructed in layers reflecting the sedimentary rock formation of the area. This wall begins outside the school on the east side (infant) and gently curves through the central commons space to the west (adult). The wall will display art work created by students and neighborhood residents, depicting noted Native Americans.

The school's commons area is a gathering space for the neighborhood families and students. The Journey Wall represents the continuity of generations, and the interconnection of cultures. Within this space is a limestone, wood and steel sculpture by Navajo artist Jake Castillo. To All My Children incorporates cultural symbols developed by talking with students, faculty and school designers.



At the school's ground-breaking ceremony are, from left to right, Frank Buck, Cornel Pewewardy and Floyd Hand.

For the students, the school, with its architectural integration of Native American symbols and concepts, provides a positive environment that encourages learning and links them with their Indian culture.

Cornel Pewewardy, D.Ed., is principal at the Mounds Park All-Nations Magnet School in St. Paul. Pewewardy was named Indian Educator of the Year by the National Indian Education Association in 1991. Paul G. May, AIA, is an architect and urban designer with Winsor/ Faricy Architects in St. Paul. He was project architect on the Mounds Park All-Nations Magnet School. AM

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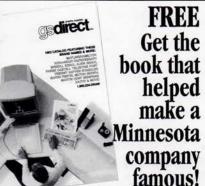
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houses by mail

Continued from page 41

HomeStyles magazine contains blueprints to muse over; when you're ready to build head on over to Menards. "They know the exact prices from lumber right down to the kitchen sink on a set of our plans," says Mark Englund, associate publisher, HomeStyles, Minneapolis. "Our joint venture with Menards is the modern version of the Sears catalog home."

The more nostalgic home owner may find himself preserving, renovating or living in a Sears-style home today (knock-offs and renovations make genuine Sears homes nearly impossible to authenticate). Durable and adaptable, these turnof-the-century homes have the same appeal as when first built. In fact, in 1989 Better Homes and Gardens Home Plans Ideas commissioned Dale Mulfinger and Michaela Mahady of Mulfinger, Susanka & Mahady Architects of Minneapolis to update "The Glendale." The architects chose the foursquare house design because it's an amalgam of the Sears-style houses in which they live.

"We all tend to connect back to our grandparents, to skip a generation, to look at our personal history and dig into the roots of the culture," Mulfinger says. "People are trying to find their own basis for understanding who they are. People who choose to live in [Sears-style] houses prefer the quality of environment in these houses: in square footage they are quite small, but they have a grandeur and feeling of rich appointment. Rooms are discrete things, and the character of the rooms enriches your life."

For 20 years, Mulfinger has lived in a 1908 house that could be Sears's "Maytown" design. "When you attach a home to the name Sears, you attach it to a name that represents the commonplace, a place you could order overalls from—simple, durable, utility goods needed in everyday life," he says. "Therein lies some of the reason for the popular nostalgia of Sears houses. There's a sense that the house didn't have to be special, it had to be utilitarian. But in the end it is special by way of its utility."

Camille LeFevre is a contributing editor of Architecture Minnesota.

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Credits

(We encourage you to support the following architects, consultants and suppliers.)

Project: Ardolf Science Center

Location: St. Joseph, Minn. Client: College of St. Benedict Architects: Perkins & Will in association with Grooters Leapaldt Tideman Architects Principal-in-charge: David Hansen, AIA (P&W), David Leapaldt, AIA (GLTA)

Project architect: Scott F. Reed, AIA (P&W)

Project team: Pat Waddick, AIA (GLTA), Carloyn Smith, Andrea Cutt, Eric Spielman, Jerry Club (P&W)

Structural engineers: Perkins & Will Mechanical engineers: Perkins &

Will/T&M Associates, Chicago Electrical engineers: Perkins &

Will/T&M Associates Contractor: Winkleman Building Corporation. St. Cloud, Minn.

Interior design: Perkins & Will/GLTA

Landscape architect: Perkins & Will

Photographer: James Steinkamp/Steinkamp & Ballogg

Windows: Gateway Glass

Roofing: A.H. Bennet (supplier), GAF (manufacturer)

Stone/brick: Gran A. Stone (Supplier), Sioux City Bricks & Tile (manufacturer) Concrete: Hardrives

Flooring systems/materials:

Multiple Concepts/Forbo (Marmoleum), Cold Spring Granite

Ceiling systems/materials: Golden Valley

Supply (supplier)/Celotex (manufacturer) Casework/woodwork: Brenny Custom Cabinets

Glass-block floor system: Innovative Building Products (grid), Pittsburgh Corning (glass block), Quick-Set Panels Corp (supplier)

Skylights: Architectural Skylight Co. (manufacturer), Gateway glass (supplier)

Project: Farmington Middle School Location: Farmington, Minn.

Client: Independent School District No. 192 Architects: Armstrong, Torseth, Skold & Rydeen Architects, Inc. Principal-in-charge: Jim Rydeen Project manager: Bill Snyder Project architect: Tom Hendrix Project designer: Craig Hinrichs Structural engineers: Clark Engineering Mechanical engineers: ATS&R Electrical engineers: ATS&R Contractor: Kraus Anderson Construction Co. Interior design: ATS&R Landscape architect: ATS&R Photographer: Ralph Berlovitz Windows: Marmet Corp; Harmon Glass Roofing: Carlisle, B&B Sheet Metal & Roofing Inc. Brick: Endicott Clay Products, Dayco Concrete: Dayco Terrazzo: Viking Terrazzo Resilient wood flooring: Haldeman-Homme, Tarkett Basics, Donlee Interiors Ceiling systems/materials: Celotex Chicago

Metallic, Britco, Worden, St. Paul Book & Stationary Casework/woodwork: St. Charles Metal

Casework, Lance Service Inc., Collegedale Wood Casework

Project: Fond Du Lac Community College (A Union of Cultures)

Client: Fond du Lac Community College, Minnesota Community College System Design architect: Thomas H. Hodne Jr., FAIA Design coordinator: Don Vermeland Technical coordinator: Roger W. Kipp, AIA

Damberg Scott Peck & Booker Project administrator: John Scott

Architect of record: John Damberg, AIA Supervising architect: Greg Granholm Fond du Lac Community College

Administrator: Jack Briggs

Board co-chair: Dr. Thomas Peacock Board co-chair: Bonnie Wallace **Minnesota Community College**

System

Chancellor: Geraldine Evans Director of Facilities: Dan Brennan President (former): Dr. Philip J. Anderson. Arrowhead Community College Region, Richard E. Cottle, architect, Division of State Building Construction

Project: Grant Park Early Childhood Family Development Center

Location: Minneapolis Client: Minneapolis Community Development Agency Architects: Setter, Leach & Lindstrom Inc. Principal-in-charge: John P. Litchy, AIA Project manager: Jerome Ritter, AIA Project architect: Lowell Anderson, RA Project designer: Allerton Paulson, RA Project team: Setter, Leach & Lindstrom Inc. Structural engineers: Ross Turner, PE Mechanical engineers: Raj Maheshwari, PE Electrical engineers: Mark Benjamin Contractor: Sheehy Construction Interior design: Richard Sutton, AIA Landscape architect: Melchert-Block Associates Acoustical consultant: Kvernstone Kehl & Associates Lighting consultant: Setter, Leach & Lindstrom Photographer: Philip Prowse Windows: Alpana Lighting: Lighting Associates Metal roofing: Steelox Roof Systems Membrane roofing: Carlisle Stone/brick: Holly Springs Brick, Stone Creek Brick Co., Minnesota Brick Co. (supplier)

Flooring systems/materials: Tarkett-McKee (VAT), Shaw Comm Carpets (CPT), Norament (rubber floor)

Casework/woodwork: Kimball, Allsteel, Westin Nielsen-Metrosystems (offices), Smith Systems-Kaplan (classrooms)

Translucent skylights: Kalwall, W.L. Hall Co. (supplier)

Playground equipment: Game Time (Tot Time)

Project: Mounds Park All-Nations Magnet School

Location: St. Paul, Minn. Client: St. Paul Public Schools Architects: Winsor/Faricy Architects Inc. Principal-in-charge: James W. Cox, AIA Project team: Dick Faricy, FAIA,

Paul G. May, AIA, F. John Barbour, AIA, Bill Madden, Becky Moore, Terry Ingle Structural engineers: Mattson/MacDonald Inc. Mechanical engineers: Erickson, Ellison & Associates

Contractor: Stahl Construction Interior design: Winsor/Faricy Architects Landscape architect: Sanders Wacker Wehrman Bergly

Cultural consultant: Floyd Hand Photographer: Phil James, Paul G. May Windows: EFCO Lighting: Daylight Designs (Skylight) Roofing: Berward Roofing (membrane roofing) Precast: Northern Precast Concrete: Palani Construction Carpet: Maplewood flooring VCT: Donlee Interiors Gypcrete: Acoustical Floors Ceiling systems/materials: Oak Construction Casework/woodwork: Northern Woodwork Inc. Artist: Jake Castillo (sculptor)

Project: North Woods Elementary

Location: La Crosse, Wis. Client: School District of La Crosse Architects: Wold Architects & Engineers Principal-in-charge: Kevin P. Sullivan Project manager: Eric B. Linner Project architect: Dan Kritta Project designer: Brian Falk Structural engineers: Structural Design Associates Mechanical engineers: Michaud Coolev Erickson Electrical engineers: Wold Architects & Engineers Contractor: Fowler and Hammer Interior design: Wold Architects & Engineers Windows: Kawneer/La Crosse Glass Lighting: Lighting Associates Roofing: Firestone/Winona Heating & Ventilating Stone/brick: Fowler and Hammer Flooring systems/materials: Roth's Floor-Mart Ceiling systems/materials USG Sullivan Brothers Casework/woodwork: Calmar Manufacturing Company Furniture systems: Mohawk Midlands (Media Center Furnishings) **Project: The University of** St. Thomas—Minneapolis Location: Minneapolis

Client: University of St. Thomas Architects: Opus Architects & Engineers Principal-in-charge: John Albers Project manager: Craig Larson, Oscar Healy Project architect: Kent Davidson Project designer: Scott Christensen Project team: Ken Erickson, Terry Korman, Bob Morgan, Chuck O'Connel Structural engineers: Opus Architects & Engineers Mechanical engineers: Opus Architects & Engineers Electrical engineers: O.S.M. Contractor: Opus Corporation Interior design: Barb Elton, Opus

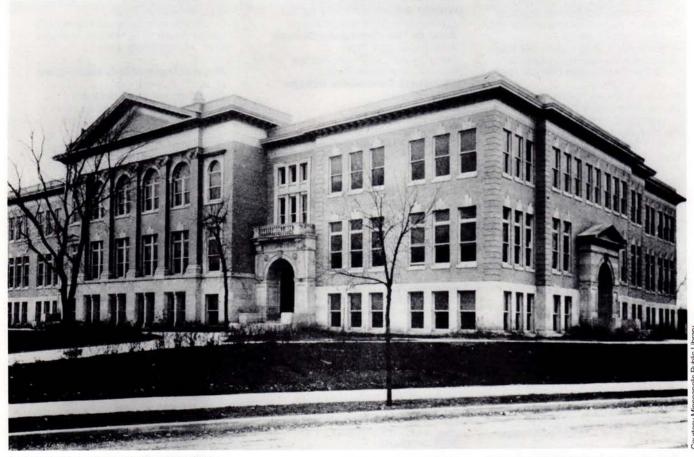
Landscape architects: Gene Ernst & Associates Other consultants: B.D.H. & Young-Cape. Design, Blumberg Communications

Photographer: shin and Joel Koyama Roofing: Concrete Roof Tile-Van De Hey Stone/brick: Mankato/Kasota Stone Concrete: Kroeger Arch. Precast Concrete Flooring systems/materials: Cold Spring Granite Pavers, Wausau Concrete Pavers Craftsman/artist: Mark Balma (fresco)

Correction

In the July/August 1993 issue, we neglected to credit fully the designers of the new Children's Museum in St. Paul. The new museum is being designed by the team of James/Snow Architects and The Alliance, both of Minneapolis.





West High School, Minneapolis, 1908-1984.

During the 19th century, several structures successively sat at the corner of Hennepin Avenue and West 28th Street in Minneapolis. Even before there were named streets, a small shack, built by a land claimant, rose above the prairie. Next came a farm house raised by the Russell family. After the city swallowed up the farm land, the Russells built a brick house on the corner. In 1906, the city bought the plot for the construction of a high school.

Minneapolis architect Edward Stebbins, who frequently worked on schools, received the design contract the following year. The construction budget was \$250,000.

West High School—a two-wing brick-and-stone structure with arched entries and a thrusting, pedimented front—opened for public tours in September 1908. Visitors admired the 75 rooms, up-to-date science labs, metal and wood shops, and 1,500-seat auditorium. Seven hundred students showed up for classes a few days later.

Soon, however, enrollment exceeded the school's capacity. To expand, the city bought more land reaching west to Humboldt Avenue. By 1917 West High had added a second gymnasium, a music room and a greenhouse. Now it could accommodate 1,600 students. Further expansion came during the next decade, when a muddy pond in back of the school was transformed into an athletic field. Over the years, West High produced more than its share of wellknown alumni. Notables include actress Tippi Hedren, journalist Harry Reasoner, household-hint tipster Mary Ellen Pinkham, entrepreneur Curt Carlson and surgeon C. Walton Lillehei.

The final addition to the campus—a new gymnasium—came in 1972. The school closed 10 years later, the victim of declining enrollment. The new gym retains life as a YWCA branch, but the rest of the school was razed and replaced by the Kenwood-Isles condominiums in 1984. A stone marker at the corner of 28th and Hennepin bears the high school's name. Jack El-Hai

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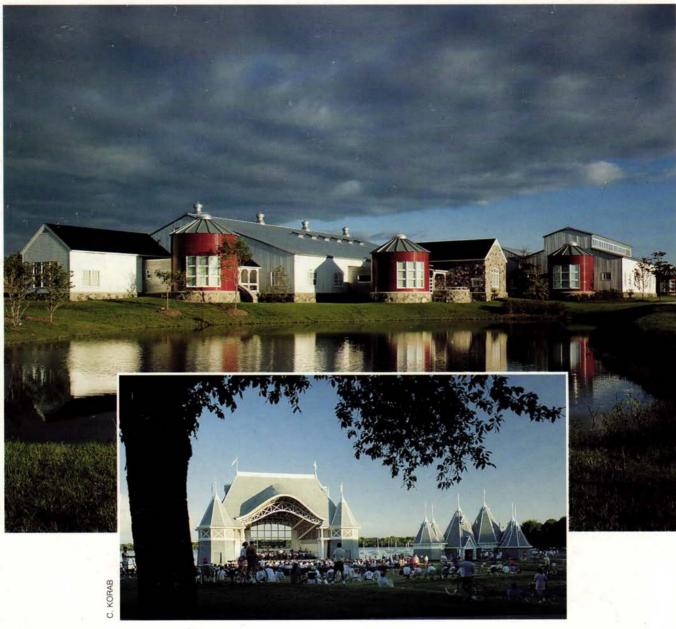
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