Also in this issue:
The Work of Glenn Murcutt
Industrial Incubators
Acoustical Design with CMU
Critique: Middleton Inn

AIA: Worth the Price of Admission?
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.

For one thing, fast-track construction scheduling was necessary due to constantly evolving design constraints. For another, it wasn't until thermal efficiency, condensation resistance and aesthetics were factored in that wood was chosen over aluminum. Consequently, 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 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.

MAKE US YOUR FIRST CALL, NOT YOUR LAST RESORT.

If your new construction project needs special attention or you've got a window design problem you just can't solve, call the one company you know will have the right solution. Call Marvin Windows and Doors at 1-800-346-5128 (1-800-263-6161 in Canada). Or mail the coupon for a free catalog featuring our entire line of made-to-order Marvin windows and doors.

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Calendar

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Features

Editor in Chief: Michael J. Crobie

AIA: Worth the Price of Admission?
While the architectural profession struggles for its very livelihood the American Institute of Architects sits fat and happy. Is this any way to run a professional association? An investigative report on how the AIA spends its members' money.

Glenn Murcutt's Ecological Eloquence
Glenn Murcutt has been blending European Modernism with vernacular and indigenous Australian forms for more than 30 years. P/A examines his work in light of his ideas about architecture and ecology.

Architectural Research
The latest installment of new research, selected by the AIA/ACSA Research Council, to broaden the profession's knowledge base. Subjects include housing density, environments for dementia, and the internationalization of the construction industry.

Shaper of Perceptions
Photo excerpts from a new monograph on the work of Julius Shulman reveal how the photographer expertly educated and enhanced public perceptions of Modern architecture.

New Life for Old Plants
Old factories are being rediscovered as ideal environments in which to start new companies and partnerships. And architects are increasingly being asked to redesign them.

Technics: Sound Blocks
Concrete masonry units possess excellent acoustical properties for damping sound. An acoustician provides guidance in detailing CMU for blocking sound.

Critique: The Art of Accommodation
The almost ceremonial design of the Middleton Inn in South Carolina, by architects Clark & Menefee, appeals to knowing visitors and has helped the project endure a hurricane and a financial crisis.

Selected Detail
Bronze, steel, and wood elegantly detailed for moveable partitions.

Coming Next Month:
- Nonprofit Housing: Avoiding Past Failures
- The Architecture of Juan Navarro Baldeweg
- Wood-Frame Detailing
- Section: Battery Park City
- Designing with Computers
- Photos from Charles Moore's Last Book
The Apple Report
On PowerPC

NUMBER 3 — POWER MACINTOSH FOR TECHNICAL USERS

 If you use applications that do floating point mathematically calculations, your performance levels could be up to ten times faster than those of the same program running on a (68040) machine—and several times faster than the fastest Pentium system-based computers.

PowerPC computers are here. Apple now generation of Macintosh computers are powered by the PowerPC microprocessor, a chip developed jointly by Apple, IBM and Motorola. With these Macintosh computers, you can expect to see speed and functionality increase dramatically, while prices remain the same—or even drop. And if you’re an engineer, architect or other power user working with large, complex files, you can also expect to see significant increases in productivity.

Power users are now writing applications for Power Macintosh computers.

A Power Macintosh offers unprecedented compatibility between Macintosh, MS-DOS and Windows environments. Thanks to an emulation program running on a Power Macintosh computer, you can run most current DOS applications without superiour processing capabilities of PowerPC chips RISC-based architecture and innovative Macintosh technology.

More compatible personal computers.

Of course, a Power Macintosh is a Mac, so it’s compatible with your present Macintosh computers, peripherals, software and files. You can also run most current DOS and Windows programs, thanks to a program called SelfWindows, which licenses Windows code from Microsoft.

As we went to press with this issue, whose cover story focuses on the waste and mismanagement of the American Institute of Architects, we reach out to you about the latest developments at the AIA. Has the national AIA been put on a fiscal diet that is about half a million dollars in the red every year? No. There has been trimming of AIA executive staff, which, under the former CEO, James Cramer, required the dues of 7,344 members (by our calculations on page 65) just to pay salaries and benefits. Wrong again.

Former publishing executive Terrence McDermott, who replaced Cramer, has been on the job only since March 1 and already there are two more vice presidential positions. This brings the grand total to nine VP’s and lays another level of bureaucracy on an already creaking, top-heavy organization. This means that there is now a vice president for every 21 employees. With these new salaries and benefits, the dues of 8,932 members are now required just to support the executive staff. The two new positions are “vice president for member communications” and “vice president for external communications.” The latter has yet to be filled, but the former is now occupied by Philip G. Sheiner, Sheiner does not an architect but a former executive of McDermott’s from Cahners Publications. Sheiner was editorial director of Building Design & Construction, of which McDermott was once the publisher. According to reliable sources within the AIA, McDermott and Sheiner came as a package.

In announcing the new appointment, McDermott described Sheiner as “a champion of architects and architecture,” but a survey of Sheiner’s editorials in R&D Magazine might lead you to a different conclusion. Stamp out the “artistic” impulses of architects is a recurring theme in his editorials. The best architects, Sheiner wrote, “don’t let their artistic nature bevit in the way of their good business sense.” Apparently, according to Sheiner, you can’t have it both ways. On another occasion, Sheiner coaches architects to “strive more to be business people, and less artists. They can start by replacing in their vocabularies words like historicist, classicist, modernist, and ordered urbanism, with functional, practical, cost efficient, and appropriate.” Replace? Why not enhance? Architects should also “avoid the avant-garde it serves no other purpose than to offend the senses and create visual pollution.” Who determines that, Jesse Helms? For the firm in the midst of downsizing, Sheiner offers this advice: “Do some internal housekeeping. You may find that your firm is populated by too many artists who have little, if any, good business sense.”

It may come as a shock to Sheiner that we don’t become architects because of the lucrative business opportunities. Anyone who does ought to have his or her head examined. In fact many of the profession’s heroes died broke. Does this mean that they were failures as architects? As a historical note, remember that the architectural profession and the AIA grew out of a concern that architecture and clients were not best served by the profit motive of the builder, and that it was necessary for the architect to have a greater concern than the bottom line. Sheiner has shown little appreciation of what draws architects into the profession, and of what our idea of accomplishment really is. It is not turning a quick buck. How can Sheiner hope to communicate effectively with a professional culture that he seems not to understand fully?

We wish McDermott and his new vice presidents good luck; they will need lots of it to make the AIA vital again. But AIA members should see these latest developments as just a coincidence that architects have witnessed a loss of prestige in the construction industry as they have handed over the operation of their own professional organization to nonarchitects? It would seem that an architect’s education and experience in synthesizing the various demands of a building project would serve one well in running complex organizations and in communicating with fellow professionals. It is time to stop handing over the leadership of our association to those outside of the profession.

Laura Garvey assisted with the research for this editorial
PIA'S NEW DIRECTION

Our change in editorial concept and format, commencing with the February issue, has elicited dozens of letters in the first month. Most are enthusiastic, some weigh pros and cons, and a few express disappointment at the new course we have set for ourselves. A sampling of responses follows on these pages.

We are reading all letters with great interest, and we thank all those who have written. —Editors

Unquestionably, you really rang the bell with your February edition of Progressive Architecture. The article by Thomas Fisher entitled "Can This Profession Be Saved?" has been probably the most read and controversial bit of architectural criticism in some time. It was a nice touch of irony that The Fountainhead, with all its history of stimulating controversy, should be the source for the pictorial accompaniment.

I think we all agree with the two main points of the article, which are that the profession is in a state of change and that it is presently wallowing in a deep professional trough. But, I also think that the profession has been prodded into action; and, as an almost religious believer in the credo that where there is chaos there is opportunity, I believe we will figure out how to save the profession and, more importantly, how to enhance it. It is critical, however, that if we wish to succeed, the profession and all its parts must have a hard and uncomfortable look at itself and then come together behind common goals and needs. I would predict that this coming together may very well be expedited by Fisher's article, and for that reason I congratulate you and thank you for helping to prod the profession into unified action.

The rest of the magazine was also wonderfully stimulating — particularly the article about Carl Koch, the harsh poetry of Sverre Fehn's work in Norway, and the highly informative good-news/bad-news articles on curtain wall. It feels like the evolution that John Dixon and Thomas Fisher are imposing on the magazine is poised for success, and I wish you all good fortune.

L. William Chapin, FAIA
Rochester, New York
1994 President, AIA

Congratulations! At last the United States has a serious and readable professional architectural journal — instead of a fashion magazine. The choices of articles were excellent and balanced. As a second-generation Norwegian, I was glad to see Sverre Fehn recognized outside of Norway, although I would like to have seen more examples of his powerful and timeless architecture. Was the timing with the Olympics deliberate?

Tom Fisher's "Can This Profession Be Saved" was thought-provoking. Its quotation "... the implicit guarantee that the school prepares the student for the world of work verges on dishonesty" reflects what every employer has often thought but not wanted to say out loud.

The Amoco Tower cladding article also discussed the kind of issues that are rarely discussed in architectural journals. We need to know the nature of failures to avoid repeating them. Henrik Bull, FAIA
San Francisco

(continued on page 10)
Views

(continued from page 8)

This is just a note to applaud your decision to change the direction to which P/A is turned. There is a mounting and unappreciated crisis in architecture and an equally serious one in architectural education, and I'm glad you are treating it earnestly and critically. That's what good journalism is all about. The editorial John and Tom wrote hits just the right note. I like all the other changes in format and content except for the table of contents page which is hard to read and looks like hell.

Jonathan King, Hon. AIA, College of Architecture, Texas A&M University

The new direction of P/A has got to be appreciated by everyone who is involved in this wonderful but ridiculous profession in the face of increasing unrest and unemployment among us and the other members of your executive committee to be congratulated for recognizing the necessity to refocus and redirect your efforts. The introspective and self-critical comments in your February editorial, "P/A Evolves," are right on the mark:

"such journalism also contributed to the public perception of architecture as a kind of fashion and the architect as a marginal player on the building team." As you turn away from the beauty-pageant approach to journalism to focus on the larger problems facing architects, hopefully you will also recognize that the "star system" promoted by the architectural press perpetuates all that you now claim to be against. Also, the next time an architect designs a teapot or a birdhouse, let it pass unnoticed on your pages, but continue to write intelligently about the real issues that most of us deal with.

As was very evident at the October 23, 1993, symposium at the Harvard Graduate School of Design, our "profession" has some serious problems. Whether it can be saved or not is, I believe, entirely unclear.

Leland D. Cott, AIA
Cambridge, Massachusetts

Your February presentation of the issues and options for architects is an excellent summary of the current dialogue and presents some sound suggestions for future directions. I feel there is one important omission, however: The real position of the public (not yet, necessarily, all the clients) wants more of what architects do than ever before? Thus, they cite (as you do) the "less disliked" than the others, while ignoring previous polls or the overwhelming interest in architectural schools as signs that the glass is half full, not half empty. An optimistic look at all the same data would see the following:

1. The American public, as consumers of consistently more architect-designed housing, offices, public places, etc., and using increasingly strong regulations on aesthetics and land use, is continuing to show an ever-growing interest in the quality of its built environment.
2. One result of all this, especially the public's interest in regulating land use and aesthetics, has been to steadily increase, for twenty years, the amount of money spent on architectural services per dollar of construction. No one has gathered real data that would see the following.

THE SHAPE OF THINGS TO COME.

As long as talented professionals are inspired by the world around us, there will be great design.

Great design takes center stage at the International Contemporary Furniture Fair—"the only U.S. forum for American and international contemporary contract and residential furnishings.

Experience the event that challenges contemporary design throughout the home and office. Preview new directions in Lighting, Textiles, Floor and Wall Coverings, Furniture, and Decorative Accessories from today's most influential designers.

And while you're in New York for the ICFF, visit NADI™, the Visual Marketing and Store Design Show. Running concurrently with the ICFF, it offers the latest in displays, merchandising and store planning.

INTERNATIONAL CONTEMPORARY FURNITURE FAIR
MAY 15-18, 1994. JACOB K. JAVITS CONVENTION CENTER. NEW YORK CITY

A housing scheme based on the structure of grapevines (axometric, left, plan, below) is the first-place winner in the Eighth MakMAX Membrane Design Competition, sponsored by the Taiyo Kogyo Corporation of Tokyo. Jose Maria Baquero and Bruce Darulger of One Ang & Partners, New York, won the top prize for a 'dwelling of the future' composed of spherical pods that hang from a vertical structure, and contain a mixture of four- and six-unit apartments.

Covering the 'grape' dwellings are diaphragms of fabric membrane (the design's 'leaves') that shield the units and public areas from direct solar radiation, while capturing energy for heating and cooling the complex. The curved steel frame and two layers of fabric form a network of airways to collect heat from solar radiation trapped between the layers.

Three Win AIA's Jefferson Award

Two architects and a mayor received the Thomas Jefferson Award for Public Architecture, an annual American Institute of Architects Jefferson Award for Public Architecture, at the International Contemporary Furniture Fair. Winners are M.J. Brodie of RTK Associates, Washington, D.C.; architect who has led the Pennsylvania Avenue Development Corporation; Richard Dattner, a New York architect known for public projects that include Riverbank State Park (P/A, Oct. 1993, p. 24); and Joseph P. Riley, Jr., mayor of Charleston, South Carolina, and founder of the Mayor's Institute for City Design.

"Grape" Housing Wins Competition

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Bohlin Cwiniwski Jackson Wins Firm Award

The Pennsylvania firm of Bohlin Cwiniwski Jackson is to receive the AIA 1994 Architecture Firm Award, an annual honor for "a practice that has produced distinguished architecture consistently for at least ten years." The 60-person firm, with offices in Wilkes-Barre, Philadelphia, Pittsburgh, and Seattle, was cited for its broad range of buildings that "respond with intelligence and humanity" to their environments. Among the firm's well-known projects are the Software Engineering Institute at Carnegie Mellon University (above), the Shelly Ridge Girl Scout Center near Philadelphia, and a house in the Adirondacks inspired by the region's "great camps" (P/A, April 1992, p. 106).

Inland Architect to Publish Again

Inland Architect, the Chicago-based magazine that shut down last summer for economic reasons, is being bought by Chicago business publisher Steve Polydoris, who is planning to resume publication this month. The nonprofit Inland Architect Press had hoped to interest a university in taking over the century-old periodical, but, unlike Polydoris, universities were unwilling to assume the magazine's $160,000 debt. The magazine had for many years stayed afloat with the financial help of architect Harry Weese, who, after subsidizing the magazine in 1990.

Meier to Design TV and Radio Museum

The Museum of Television and Radio in New York has announced that it will open a second facility in Beverly Hills next year. Richard Meier has been selected to renovate an existing building to house the museum.


Australian monographer Philip Chen offers an insightful outsider's viewpoint on the firm that is synonymous with the reworking of Canadian architecture. The book's introduction does much to place the firm's 40 years of work in its cultural context (above: Casa Cannelli, 1952).

Sweet Disorder and the Carefully Considered, Theory and Criticism in Architecture by Robert Maxwell, Architectural Press, New York, 1994, 312 pages. This collection of essays by the British architect and critic, Robert Maxwell, condenses 23 years' worth of observations about buildings and architects as well as broader theories. It is a classic British performance: the writing is clear (often witty), the judgments are even handed (sometimes a fault), and the phrases utilized (a bit wordy mannered). The real disappoint­ment is the paucity of photos and plans.

Boundaries of the City, The Architecture of Western Urbanism by Ron Yamasaki, University of Toronto Press, Toronto, 1993, 576 pages. Cities, claims University of Toronto professor Ron Yamasaki, are formed around boundaries, not just physical boundaries (walls, roads, etc.), but cultural and philosophical ones as well. Boundaries between cities and parts, individuals and the state, artifice and nature, etc. This dense, well written book looks at urban vision (Rome, Siena, Paris, Berlin) in the light of the European end of the question of whether, with the closing boundaries of the modern city, we are coming to the "end of the metropolitian cycle in the West.

Photovoltaics in Architecture by Obioma Hurn and Peter Taggart, Ablex, New York, 1990, 247 pages. Subtitled, "the integration of photovoltaics in building envellopes," this book - written in English, German, Italian and French - holds an intriguing array of built and unbuilt work, demonstrating that aesthetics, photovoltaics, and ecology can be smoothly synchronized. In addition to the useful but frustratingly brief building descriptions and the minimal number of drawings, the book contains information about technical, energy and engineering issues.

In the preface to a new urban uplift program guidebook, Housing and Urban Development secretary Henry Cisneros, and his assistant secretary, Andrew Cuomo, say, "First, we must recognize the importance of linking economic, physical, and human development to build viable communities and to create new opportunities for the disadvantaged." And they seem to mean it.

Building Communities: Together, HUD's leadership addresses urban areas seeking federal designation as "empowerment zones and enterprise communities," an enhanced version of ideas initially advanced under former HUD secretary Jack Kemp.

But HUD's new pronouncements and guidelines also urge a strategic planning and "visioning process" linked with views and beliefs taken directly from the fields of urban design and architecture about the importance of preserving or establishing a human scale, of promoting community through design, of making neighborhoods, and of engendering resource con­sciousness.

A Vision Concept of mixed uses from Building Communities: Together.

In HUD Discovers the Vision Thing

A new guidebook from Housing and Urban Development shows an interest in the physical form of communities.

We've learned that warehouse shelters won't work for the homeless and it's the same thing here; it all has to be based on ideas of balance: human scale, restoration.

He and others see the architectural "visioning concepts" being advanced by HUD as having equal applicability to economic development, community service, and social welfare programs. Cathorpe's paradigmatic image of police officers "walking a beat, not riding in helicopters overhead," made it into HUD's latest guidebook.

Six Projects Will Test Ideas

With funding of $100 million each for the six sites that will eventually be selected, the "empowerment zone/enterprise community" program forms a relatively small element in HUD's collection of responsibilities, but it has high visibility and presages an overall urban strategy being guided by similar principles.

It's easier to push the envelope with a smaller, competitive program like this," says one veteran observer. "It may be harder to advance these kinds of ideas when you start getting into the major entitlement programs."

But that may be exactly what must happen if HUD wants to make major progress toward national urban healing and growth man- (continued on page 42)
Clemson’s McClure Wins Education Award

Harlan Ewart McClure, who was dean of the College of Architecture at Clemson University from 1958 to 1985, has been selected to receive the Topaz Medal of Excellence in Architectural Education. The award is given annually by the AIA and the Association of Collegiate Schools of Architecture (ACSA). McClure (above) was cited for his work with national organizations, his “service to the citizens and communities of South Carolina,” and his role in “building and sustaining” Clemson’s architecture program. McClure, who is now dean emeritus at Clemson, has also written and edited publications about South Carolina architecture.

Rehab Work at the Pompidou

French officials have announced a massive, five-year renovation project for Piano & Rogers’s Centre Pompidou in Paris (seen above shortly after its 1977 opening). Parts of the building, which officials say is “seriously degraded and in need of major repairs,” will be closed to the public starting late next year for the $20 million project. The center’s outdoor forecourt will also be redesigned. New work will be done according to plans by Renzo Piano.

U.S. Wavers on Berlin Embassy Site

While the U.S. has been offered one of Berlin’s most important sites – next to the Brandenburg Gate – for a new embassy, Ambassador Richard Holbrooke has let it be known that he is considering other sites, perhaps in a less important area. Holbrooke was advised by the citizens and communities surrounding the embassy site, according to the Times.

The Modern Meets the Master

The Museum of Modern Art offers an exhibition big enough to hold Frank Lloyd Wright.

by Mark Alden Branch

One could easily ask “Why Wright Now?” about the blockbuster exhibition “Frank Lloyd Wright: Architect,” which has been on view in a number of significant museums throughout the U.S. over the past 18 months. The exhibition features the work of the architect who could merit this kind of treatment in America. (Even the Museum of Contemporary Art’s “Louis I. Kahn: In the Realm of Architecture,” a show that would be the subject of a similar treatment if it were to come to America, could not be shown at the MoMA’s usual venue because it was too large.) The show opened May 10 at the Museum of Modern Art in New York, which is the only venue for Wright’s work. The exhibition features over 200 works by Wright, including drawings by Wright and his delineators, 126 photographs, 30 models (some original, some built for the exhibit), and assorted architectural fragments.

Full-Scale Walls Show Construction

The show’s greatest innovation is the inclusion of six full-scalemock-ups of walls from projects throughout Wright’s career. We not only get the pleasure of seeing exterior and interior walls of the Herbert Jacobs Usonian House, for example, at full scale; we also see the layers of the walls stripped away – in a didactic drawing – to demonstrate how they are put together. These mock-ups go a long way toward alleviating the frustrating sense of distance that accumulates in the museum.
AIA Education Honors

Three architecture school courses have been cited by the seventh AIA Education Honors jury, which recognizes "innovative and transferable" courses or programs in schools. Winners are "The Poetic Potential of Computers: Design and Architecture with the Macintosh," taught by Bennett Neiman at the University of Colorado at Denver; "Design-Build Studio (above)," taught by Vytenis Gureckas at The Catholic University of America (P/A, March 1994, p. 58); and "The Reality of Making: Collaborative Working Drawings," taught by Max Underwood at Arizona State University.

Firms Cited For Intern Development

Four firms have been selected to receive the AIA’s first IDP Outstanding Firm Awards for “contributing to the success of the intern development program.” Winners are Klipp Colussy Jenks DuBois, Denver; Albert Kahn Associates, Detroit; Johnson & Laffers, Grand Forks, North Dakota; and BSW International, Tulsa, Oklahoma (P/A, Sep. 1993, p. 66). Cynthia Easton, a sole practitioner in Sacramento, California, earned a special citation for “exemplary mentorship in a small office.”

CICA Criticism Awards

Two American books were honored in the Triannual International Awards for Architectural Criticism given by the International Committee of Architectural Critics (CICA). City of Quartz (Verso, New York, 1990), Mike Davis’s account of power relationships shaping the built environment of Los Angeles (P/A, Aug. 1992, p. 77), was named “most relevant book.” Louis I. Kahn (Rizzoli, New York, 1991), David Delong and David Brownlee’s catalog for the traveling exhibition, was cited for “its relevant prologue.”

Practice Notes

Modest Growth Shown in 1993

Staffing levels and project backlogs grew by 1 to 2 percent during the last three quarters of 1993, according to the Zweig 100. Firms in the South Central and Southeastern states were most optimistic about future growth, the North Central states the least. For more on the index, call Jerry Guerra at 508-651-1559 (508-653-6522, FAX).

CAD Use Jumps, Despite Recession

The Professional Services Management Journal reports that the use of CAD on architectural projects has jumped from 70 percent in 1991 to 90 percent in 1994. Also, 15 percent of the firms surveyed have a computer at every desk. For more information, contact Bill Fanning, PSMJ’s Director of Research at 404-971-7586.

Free Housing Accessibility Consulting

For the next several months, North Carolina State University Center for Accessible Housing will be offering free technical assistance nationally to architects and housing providers faced with accessibility problems. Contact Emil Malizia, program director at 919-515-3082 (919-515-3023, FAX).

Hello Vietnam

The Hillier Group of Princeton, New Jersey, along with the Gannon Company, have opened an office in Hanoi. Hasbrock, Peterson, Zimoch & Sirirattumrong of Chicago, meanwhile, have teamed up with the M Group of to develop three hotels and a shopping/office complex in Hanoi and Hue.

Technics Notes

Low-Slope Roofing Guide

The 1994 edition of Commercial Low-Slope Roofing Materials Guide is now available from the National Roofing Contractors Association. The guide is a comprehensive report on commercial, industrial, and institutional low-slope roof membrane, insulation, and roof fastener products on the market. For more information contact Alan Grayson, NRCA, (708) 229-9070.

Moving to Metric

According to a recent issue of Metric in Construction, published by the National Institute of Building Sciences, nearly half of the Federal government’s current $50 billion appropriations for construction is being done in metric measurement. By 1996, all Federal work will be done in the international unit system.

Stick ‘Em Up

A recent survey of more than 100 American bankers reveals that most feel that contemporary “open” branch layouts, designed to foster customer contact, ignore security needs and endanger customers and staff. Bank robberies climbed 41 percent between 1988 and 1991, while the overall crime rate for the period rose just 4 percent. Seventy-eight percent surveyed disliked the plate-glass windows commonly found in branch banks, which allow surveillance of bank operations and encourage “smash and grab” robberies.
Escape the trap of plain and ordinary surfaces with Nevamar for 1994. Dozens of exciting new items across three product lines are creating quite a splash on the design front. Just what you need to infuse a little excitement into your designs in the coming year.

NEW LAMINATES. New Nevamar® decorative laminates include many colorful new items. Intriguing Patterns making long lasting.

NEWAR® decorative laminate for exclusive ARMored NEVAMAR® (ARP Surface®) laminates Exciting Solids. Intriguing Patterns making long lasting.
Reject the common idea. Specify Fountainhead by Nevamar, the elegant solid surface that’s durable as well as beautiful. This year, Fountainhead brings four new color options to the table. Fawn and Aegean Mist complement our selection of natural looking patterns, while Bisque and Parchment add two neutral colors to our wide range of solids. A new sink and bowl have been added to the line, as well.

NEW IMPRESSIONS

Pull a seat with new impressions. Their pearlescent realism look
NEW IMPRESSIONS

Pull away from the commonplace with new Nevamar Impressions.™

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Denver Airport Faces Criticism and Delay

Six months late and $1.2 billion over initial estimates, the new $3.1 billion, 53-square-mile Denver airport (P/A, Mar. 1992, p. 105), due to open next month, has been criticized for its poor public transit access and delayed by a faulty baggage handling system. The five-mile-square-foot passenger terminal, by C.W. Fentress, J.H. Bradburn & Associates of Denver, is six floors high and intended to handle up to 100,000 visitors a day; it features a 900-foot-long Great Hall capped by a huge fabric roof, whose 34 peaks, each rising 120 feet above the floor, nod to those of the nearby Rocky Mountains.

Boston Transport Center Nears Completion

Leers, Weinzapfel Associates’s $30 million vertical expansion and remodeling of the operator’s control center for the Massachusetts Bay Transportation Authority in Boston has a scale that makes it appear much larger than its ten stories. The original five-story building, completed in the early 1970s, was designed to support tenston.

Projects

They Say It’ll Be the Tallest Tower in the World

Early next year, a 1,500-foot-tall, glass- and metal-clad office and hotel tower, billed as the tallest structure in the world, will begin to rise over Chongqing, the capital of Sichuan Province, China, with a population of 12 million. A major requirement of the 50-year land lease is that the building be a minimum of 100 stories tall; it will be 114 stories. Designed and executed by an international consortium headed by HLB International, New York, the 246,500-square-meter (2,650,000-square-foot) tower, supported by a 48-column steel tube perimeter system, will be built in the heart of the city’s commercial and entertainment and shopping area; a rapid transit station is currently under construction on the site’s eastern border. The building’s faceted façade will be punctuated by an eight-story atrium, framing views of the surrounding landscape.

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Eva Roth
Vice President and General Manager
Decorative Products Division
Theater in a Drum in London

A traffic circle on the South bank of the Thames in London will soon house an IMAX movie theater for the British Film Institute. The architects, Avery Associates of London, take advantage of the geometry of the site (four highways converge on the circle) in creating a memorable drum-shaped form with film-related supergraphic images. The building will form part of the South Bank Arts Complex, which includes Avery’s 1988 Museum of the Moving Image nearby.

Apartment Living for People With AIDS

Unlike typical, single-room-occupancy AIDS housing, the New Hope Apartments in San Pedro, California, are designed to minimize the institutional qualities often associated with such projects. Designed by Jeffrey Daniels & Associates, Los Angeles, the ten one- and two-bedroom units, configured around an open courtyard, are for people with AIDS who have no means to support themselves. The building also includes a range of public and private spaces – individual balconies, a landscaped courtyard, a community room, and a sun deck above the main entrance. Construction is to begin next month.

Regional History Museum Renovated and Expanded

The 13,000-square-foot renovation and expansion of the Lake County Museum, a regional history museum located on a natural preserve northwest of Chicago, completes the first phase of a multiphase masterplan by David Woodhouse Architect, Chicago. A new wing of three contiguous drum-shaped structures linking two existing buildings was inspired, as was the entire project, by the museum’s existing structures, originally built as barns for prize livestock and race horses. Future plans for the museum complex include a 55-foot-tall “silo-like” observation tower and a 16,000-square-foot wing to house the Curt Teich Postcard Archives.

A Historic Rookery Room Restored

Timing suggests that Burnham & Root’s study in the Rookery Building was the setting when Daniel Burnham, John Root, Frederick Law Olmsted, Charles McKim, Louis Sullivan, and others met in Chicago to form plans for the World’s Columbian Exposition of 1893. The restoration of the room (left) was recently completed by McClier, the Chicago firm that restored the Rookery (P/A, Oct. 1992, p. 90). Two historic photographs, paint analysis, and other on-site clues provided the evidence for recreating everything from carpeting to oak paneling and cabinetry. But much was still in place, simply begging for better care, including the well-known fireplace before which the partners once contemplated each other (inset).
Ando Projects Flirt With Nature

In describing two recent projects, Osaka architect Tadao Ando (P/A, Feb. 1990, p. 83) emphasizes the relationship of his minimal, geometric work with nature. A housing complex in the Rokko section of Kobe (adjacent to an earlier Ando housing project completed in 1983) is built on a rigid 5.2-meter square grid. It is the meeting of the regular grid and the irregular 60-degree slope of the site, Ando says, that "generates asymmetries in plan and section, introducing complexity." While the grid is regular, each of the apartments (below) is unique.

The Naoshima Contemporary Art Museum (bottom right), on the island of Naoshima in the Sea of Japan, is approached by boat. Visitors disembark onto a stepped plaza, from which the museum (partly buried to preserve more of the site's natural beauty) becomes visible. The museum itself, which enjoys a view of the water on three sides, is dominated by a cylindrical lobby and temporary exhibition space.

New Factory for Benetton Group

The recently completed Benetton Group factory near Treviso, Italy, designed by Tobia and Afra Scarpa, is the third structure by the architects for the clothing manufacturer at this site. The factory's straightforward industrial image (saw-tooth gable walls of ribbed galvanized steel) is enlivened by a striking cable-stayed structural system that encloses a column-free area of approximately 393,000 square feet. The basic structural module is repeated seven times to form the skeleton: two central double columns of steel, with cables supporting 85-foot-long steel lattice girders on either side, are connected by a central reinforced concrete box beam. The wide bays under the girders are used for manufacturing; the narrower central bay is dedicated to goods handling.

An Interactive Photo Imaging Shop

On Manhattan's Upper West Side, residents can take advantage of state-of-the-art photo CD technology in a new interactive digital imaging store, designed by Harry Uvegi and John Beckmann of New York's Uvegi Associates. Though small (600 square feet), the vaulted interior reflects the high-tech elegance of the equipment: one canted maple-plywood-paneled wall accommodates video monitors and interactive photo CD players; the opposite pearwood-veneered wall holds rolling storage systems that glide along recessed tracks to facilitate order processing. The center of the space is bisected by a glass plane and a 10-foot-high, perforated, anodized aluminum "silo," which encloses the hands-on "create-a-print" machine.

Townhouse, Off-the-Shelf and On the Mark

An unorthodox, but graceful, addition to a Greek Revival neighborhood in Cambridge, Massachusetts, Jacob Albert's decorated shed turns notions of historic preservation upside down. Building on the site of a decrepit townhouse, he emulated the street's ad hoc syntax of asphalt shingles and vinyl siding. Instead of alluding to the neighborhood's once-chaste architecture, Albert showed that contextual design can be as liberating as it is responsive: his house is sensible in its massing and plan, yet insouciant in its facade composition. Outside and in, stock items, from double-hung windows to glass sconces, are used idiosyncratically.
Maryland Arts Center Competition

Five firms were invited to submit designs for the Maryland Center for the Performing Arts, a $97 million project for the University of Maryland at College Park. Winners Moore Ruble Yudell, Santa Monica, California (with Ayers/Saint/Gross of Beverly Hills; Virginia) were awarded the project’s 295,000 square feet with a brick, gable-roofed complex that lined up the theaters and concert halls on both sides of an arcade. Runners-up Pei Cobb Freed & Partners, New York, also broke the program up into distinct pieces; their star-shaped design (2), which centered on a covered atrium, was faulted by the jury for its “monumental and heroic” stance.

Antoine Predock Architect of Albuquerque proposed the only monolithic object-building of the five, a characteristically moundslike form (3) that the jury found “visually inspiring” while expressing concern about the design’s suitability for the campus and the Maryland climate. Barton Myers Associates (4) of Beverly Hills presented a hard edge to the off-campus streets while opening up the campus with a novel circle-in-a-square courtyard, partially covered with a glass canopy. The design by Cesar Pelli & Associates, Chicago, 36

P/A April 1993

have been a subscriber to P/A for about 13 years. It has been the best architectural magazine in the world. It has opened up to me the most exciting happenings in the U.S. world of architecture. Now you suddenly seem to be ashamed of all that you have done. You have used words that suggest you have been through a Viet-Cong style of reprogramming or an evangelical rebirth and have realized that all you used to think of as worthy is now dirty rags.

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Your editorial says “In design . . . rather than showing a series of buildings in splashy (there you go again, insulting yourselves; they weren’t splashy they were detailed) presentation, we will discuss bodies of work.” I have no problem with that, sounds interesting. What do I get? A brief article on Sverre Fehn, and short (superficial?) clippings on four of his projects, all of which are too brief; and
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The strategic planning guidebook is long on concepts and visions, while short on specifics. On the other hand, according to congressional budgeting process, and HUD already finds itself having to explain why it reduced budget of poverty and could help to thin them out, says one proponent.

"We also need to look at coordinated, cross-departmental programs," says Calthorpe, noting that more substantial funds could be garnered from a unified approach involving the Departments of Transportation, Health and Human Services, and even the Environmental Protection Agency.

For now, the AIA - with the American Planning Association, the Urban Land Institute, and several other organizations who consulted in preparation of the first guidebook - hopes to work out a "consolidated planning process" with HUD, to integrate planning and funding for public-housing ownership programs, community block grants, emergency shelter efforts, and housing for people with AIDS.

"There's a new coalition at work," Calthorpe maintains. "Urbanists and community activists were just at the centers of cities and environmentalists were at the edges. Now they're coming together around this idea."

"No More New Money"

Perhaps, but progress in HUD's efforts will be hampered by limited means. "There will be no more new money," said one close observer of the Congressional budgeting process, and HUD already finds itself having to explain why it reduced budget proposals in these areas while preaching action. Not all of the evidence from the new HUD is reassuring.

The strategic planning guidebook is long on concepts and visions, while short on specifics. On the other hand, according to the new formula, specifics are to come from local communities: "The idea is to have a collaborative process, not to be prescriptive," says a guideline author. "The process surfaces the issues, talents, and ideas, which get you to the visions."

That remains to be seen. Meanwhile, if just a few of these visions take hold, it will signal an encouraging turn of events for urban America.
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The Lumar Lighting division of Cooper Lighting has introduced a new family of high-performance, vandal-resistant fixtures to enhance security in public facilities. The VR2000 series has angled facets and radius corners both to deflect blows and to distribute impact evenly into the mounting plate. Available are more than 40 compact fluorescent, H.I.D., linear fluorescent, and LED lamp sources, with various wattages and performance characteristics. Standard and custom color options are extensive. Circle 102 on reader service card

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Pittsburgh Corning has added the EndBlock™ finishing unit to its THINLINE® Series of PC GlassBlock® products. The new 4" x 8" block has a rounded, finished surface on one edge and is 3 3/4 inches thick; it is available in the DECOM® pattern and can be installed horizontally or vertically to terminate walls, partitions, and panels. Circle 101 on reader service card

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Products

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Metallic Finish for Acoustical Panels

Decaoustic, a Canadian manufacturer of acoustical panels for walls and ceilings, has introduced a new line of six metallic finishes (in shades of silver, pewter, copper, and bronze) with real metal particles. Metallic finishes are said to provide the same sound absorbency ratings as the company’s fabric or vinyl covered panels. The finishes can be applied to a sound-absorbing core or to a sound reflective panel. Circle 104 on reader service card

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The Virtu Table series, fabricated by Nienkamper, was designed by Yabu Pushelberg, an interior design firm based in Toronto. The laser-cut stainless steel frames support a '/4"-thick tabletop available in clear or frosted glass, tile, stone, or wood; several table sizes and shapes are available. Circle 106 on reader service card

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This integrated intercom and security camera (shown above) is part of a comprehensive building communications system called Siedle-Varis from SSS Siedle. The modular system, constructed of high-grade polycarbonate for indoor and outdoor applications, includes entryway speakers, call button, lamp, and other viewing, lighting, and speaking functions. Flush wall-mounted and freestanding units of various sizes and styles may be ordered. Circle 108 on reader service card

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Wall System with Waferboard Finish

Marlite's Surface Systems: interior wall finishes (P/A, Jan. 1993, p. 187) are now available with a stained waferboard surface. Each module has a tinted stain applied to an industrial waferboard substrate, including the edges, and is coated with a catalyzed clear finish. Standard module sizes and custom options are available. Circle 167 on reader service card

Acoustical Masonry Units

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Directory of Products with Recycled Content

The Harris Directory is a national database of building materials with recycled content. Published by The Stafford Architects, Seattle, it has more than 1,500 listings, each of which includes CSI division and section; product description; type and percentage of recycled content and environmental benefits; tests and standards approvals. Circle 201 on reader service card

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Editing Tool for Scanned Drawings

Rasterex's RxSpotlight V 1.0, billed by its distributor Expert Graphics as the first true scanned drawing editor for Windows, runs as a stand-alone. Windows 3.1-based application that cleans up paper drawings for archive purposes; it is positioned as an alternative to raster editors that work inside the CAD environment, requiring use of a high-end CAD workstation. Fifteen different filters (speckle removal, thinning, thickening, and contour decoupling, for example) are included for single-operation cleansing of the entire file.

VersaCAD Version 8.0 for PC CAD Users

VersaCAD Version 8.0 is a new release of CAD software for MS-DOS-based PCs from Computervision Corporation. Some of its new features are: automatic change updating for reference files; storage of multiple files with drawings; and enhanced network utilities that enable rapid, graphic selection of file names. Two versions of Version 8.0 are available: VersaCAD/386 for users working on Intel 386 and 486 MS-DOS-based PCs; and VersaCAD Design for users of IBM PCs and compatibles with a minimum memory of 640K running MS-DOS version 3.3 or higher.

Drawing Management Software for Windows

CAD Systems Unlimited's Slick!, drawing management software is now available for Windows. The Windows version supports DDE, the Windows Clipboard, and MCI. Slick! supports viewing of native AutoCAD drawing files, slide files, HPGL, plot files, DWF files, and RLL and CALS Group IV raster files. Its features include query and reporting capabilities and a user-defined database structure.

Texture Maps in CD-ROM

The Multimedia Division of Autodesk has introduced Texture Universe™, a collection of texture maps in both .GIF and .TGA file formats, formatted on a single PC- and Macintosh-readable CD-ROM. Offering more than 400 natural and synthetic materials arranged in categories such as minerals, watercolor, stone, plastics, concrete, metal, and fabrics, the texture maps are introduced primarily for use with the Autodesk's visualization tools (3D Studio® Release 3 and AutoVision™), though they can be used with any PC or Macintosh-based graphics software.

Three-Dimensional People

Schreiber Instruments, a developer of software programs for AutoCAD® and 30 Studio®, has introduced a new grouping of 3D human mesh models for use in any rendering or animation. IMAGINE 3D People™ has a minimum number of vertices, allowing users to add people to their files without any noticeable change in file size or rendering time. The software includes male and female models sitting, standing, walking, and jogging, in three clothing styles (office, casual, and athletic).

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While architects struggle for their very livelihood, the American Institute of Architects sits fat and happy.

Is this any way to run a professional association?

by Michael J. Crosbie

Last December, an audible groan issued from me and thousands of other members of the American Institute of Architects as we opened our dues invoices. The AIA was in our mailboxes again, handing out, asking for our yearly offering to sustain the honor of belonging to this grand and glorious Institute. Is it worth it, we wondered. Don't we have better things to do with several hundred dollars than send it to Washington, for the privilege of putting three letters after our names and receiving an annual allotment of AIA junk mail?

Right on cue, the next issue of the AIA Memo carried an article, "AIA membership—What's it worth to you?" Written by an AIA staff member, the article reassured us that, yes, membership is worth every penny, and listed the Institute's accomplishments over the past year. Send the check.

In an interview before he stepped down last month as AIA's Executive Vice President and Chief Executive Officer, James P. Cramer was chipper about the Institute's accomplishments during his five-year tenure. In a time when the architectural profession is being beaten to a pulp—losing jobs, losing money, and losing influence on the built environment—AIA membership is up, AIA revenue is up. "If you look at the growth of the organization, and the renewal of its products and services, it's pretty amazing," beamed Cramer. "We're a leader among other associations."

In comparison with the AIA's 300-plus chapters, Cramer went on, things are positively rosy. "Financially, it's been a real struggle for our chapters to get through the recession," explained the CEO. "Revenue sources dried up, and some firms that had been supporting the chapters dried up. But even during this time, AIA national was growing by a couple of million dollars a year. We were actually doing better than the chapters."

What's Wrong With This Picture?

Alan Weiss of the Summit Consulting Group, the latest in a parade of consultants hired by AIA over the years to study the Institute's effectiveness, finds the Cramer scenario strange. "I don't believe the purpose of the AIA is to be managing its business centers, no matter how great the profits," observes Weiss. "The AIA could outlast the profession under current conditions, which strikes me as bizarre. The Institute is financially stable, but the profession isn't. I'd rather have it the other way around."

So would its members. Weiss's survey reveals their widespread disgust with the AIA for its ineffectual support of architects in the trenches. They point to the Institute's inability to raise public awareness of architecture and the profession's worth, and to raise the financial rewards of practice. They see the national AIA as out of touch with the typical member, unresponsive, its programs uncoordinated. On a scale of 0 to 10, respondents to Weiss's survey ranked the value of AIA membership at 4.41. "The AIA does nothing for us," said one member polled. "It's a pretty expensive loyalty."

Why Not an Architect?

At the beginning of last month Terrence McDermott, a publishing executive, assumed the helm as the AIA's new CEO. The AIA is one of the few associations whose head is not a member of the profession it represents. The American Bar Association, American Medical Association, American Psychiatric Association, American Society of Civil Engineers, American Society of Mechanical Engineers, American Society of Heating, Refrigeration and Airconditioning Engineers, and the American Planning Association are all headed by represented professionals.

A senior AIA staffer believes it sends the wrong signal. "The AIA's CEO should be an architect. It would be a good, strong message to the membership that architects can do a lot of different things and still be architects. It should be someone who understands how an architect's mind works, rather than someone interested in association management and bureaucracy."
Why Do Architects Join?

There are numerous reasons members cite for joining the AIA. Putting three letters after your name is a big reason. Architects feel that association with the Institute gives them better standing in the eyes of potential clients, who may assume that membership is required for practice, or that it's a higher standard of licensing. But clients are wising up. In his survey Weiss discovered that the luster of "AIA" is fading. "Buyers are getting smarter," notes Weiss. "They're beginning to learn that as long as they're dealing with a registered architect, it's okay. Or they may not even have to deal with an architect."

The very nature of the designation is eroding. Another recent survey by the Roper Organization, of 800 clients, found that membership in the AIA ranked next to last on a list of 15 criteria important to architect selection. For example, my Connecticut midsize firm with 20 architects, half of whom are AIA members, the supplemental dues bill alone would be $4,190. Firm principals take an additional boost. AIA members who own their own firms are liable for "supplemental" dues. They are also accessible to non-AIA members, including professional documents (Masterspec, contract documents, and the AIA Handbook of Professional Practice, all of which receive very high marks), lobbying (the benefits of which accrue to all architects), and publications such as AIA Memo and Architecture (which can be obtained through subscription).

How Much Does It Cost?

Joining the AIA is not cheap. The standard national dues are $165 for full membership. Associate status (for employee who is an AIA member, and local supplemental dues, too. For a hypothetical New York architect heading a midsize firm with 20 architects, half of whom are AIA members, the supplemental dues bill alone would be $4,190.

It is in the employer's interest to pay employees' national AIA dues, and hope they will pay their own chapter dues, thus reducing the firm's supplemental dues bill. Such an arrangement boosts AIA membership, of course, but it also makes the Institute vulnerable to changes in the dues structure. The Summit study found that if firms did not subsidize their employees' AIA dues, at least 50 percent (and maybe as many as 90 percent) of those employees would drop their memberships.
AIA: WORTH THE PRICE OF ADMISSION?

Membership: Up, Down, or Interred?

During the past five years, AIA membership has seen sawed. From December 1989 to December 1990, membership grew by 1 percent. The following year, it remained virtually the same, increasing by only .002 percent. In 1992 membership took a tumble, decreasing by nearly 4 percent. Last year, from December 1992 to December 1993, it declined by approximately 1,200 members. Membership currently stands at 55,000, but this tally is probably inflated. A number of spouses of deceased members report trying to have their loved one's name removed from the AIA rolls, to no avail.

How do AIA dues compare to those of other professional organizations? Not very well. Believe it or not, it is cheaper to join the American Bar Association ($225), the American Dental Association ($330), or the American Medical Association ($420). Among the engineering associations, it is less expensive to join the American Society of Civil Engineers ($125), or the American Society of Mechanical Engineers ($80). The American Planning Association dues are based on income, but are never more than $161.

Where Does the Money Go?

In 1992, the last year for which audited records are available, AIA national took in over $11 million in dues, which accounted for nearly 37 percent of its revenue. The rest of AIA's operating budget came from publications, program services, rental income, and other assorted sources (see table, page 63). That year the AIA had a $4.4 million deficit of expenses over revenue, which was partially offset by a transfer of $3.8 million from the Institute's corporate reserve fund.
The AIA's largest single expense is its staff: more than 200 employees at headquarters, a number that has remained virtually unchanged, according to Cramer, during his tenure (while the profession downsized). The Institute's payroll is over $11 million annually. Salaries range from $12,000 at the basic staff level to $85,000. The Institute's seven group vice presidents each earn $100,000. The EVP/CEO is paid $225,000. Benefits add another 31 percent to salaries. Do these incomes seem high, especially for a nonprofit organization? Well, the AIA's executives are doing much better than most of the members they serve. According to the Institute's own surveys, the average compensation in 1992 for principals and partners in firms with more than 20 employees was just over $100,000. Firm associates (comparable to AIA's group VPs) averaged $56,700. Think of it this way: it takes the dues of 7,344 members to pay these eight members of the AIA's top brass.

If you ask AIA members why they pay dues, chances are they will say for lobbying or to improve the public's understanding and appreciation of their profession. When PIA polled architects seven years ago about what the AIA should be doing, these two activities were at the top of their list. The Summit study found a similar emphasis. But only a tiny fraction of dues money actually goes toward these activities. Of national dues, less than 6 cents out of every dollar goes toward lobbying. The AIA has three registered lobbyists, according to one of them, Ann Looper, and their staff support recently was cut back by two people. The public/client-outreach program has a budget somewhere between $100,000 and $200,000, and is run by one staff member. This post remained unfilled at press time after a three-month vacancy.

The Million-Dollar Board

Believe it or not, the AIA spends more money on its 49-member board of directors than it does on lobbying and public outreach combined. The board meets four times a year, (five, if you count its get-together at Grassroots). One meeting is held at AIA headquarters, another at the AIA's annual convention, and the other two at locations determined by the AIA President. Last year the spring meeting was in Miami and the fall meeting was in Aspen. The meetings last from two to three days (more about this later). The board's budget allows $100,000 for direct expenses (hotels, food, $150,000 for overhead, and $180,000 for travel (board members are funded to bring spouses to three meetings). There are $206,000 for Grassroots travel, convention expenses, transportation for board candidates, and regional travel, and $6,000 in miscellaneous expenses. The AIA President has a $50,000 travel budget and a $30,000 discretionary fund. The EVP/CEO has a discretionary fund of $40,000. Then there's a $300,000 "opportunity" fund that the board can distribute as it wishes. "It gives the board the flexibility to be responsive, without getting wrapped up in bureaucratic crap," explains Cramer.

Is the AIA board worth it? Some of its own members have their doubts. For one of them, it was not the rarefied, deferential body he expected. "It's more like Moe, Larry, and Curly go to Washington," he chuckles. Another board member commented that the meetings are interminably long, as discussions are conducted by passing a microphone around the room so that all 49 members can have their say. Deliberations routinely run off into the minutiae of AIA operations.

Staff Infection

The board saps staff time and attention that might otherwise be directed toward serving members. Weiss's study found that the AIA staff focuses primarily on keeping the board happy. According to one staffer, "My customer is the board and senior management." Another AIA employee, in a priceless display of "opportunity" fund, the board can distribute as it wishes.

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Glenn Murcutt’s Ecological Eloquence

Australian architect Glenn Murcutt has been blending European Modernism with vernacular and indigenous Australian forms for more than 30 years, producing buildings that are a model of ecological architecture. by Françoise Fromonot

At a time when architects around the world are addressing environmental concerns, it is worth studying the work of Australian architect Glenn Murcutt. He has designed a number of eloquent steel, aluminum, and glass buildings that seem to float above their sites. Along with their sensitive siting, these structures also attend to the climate and context with a Modernist vocabulary, belying “the notion,” writes Anne Whiston Spirn of the University of Pennsylvania, “that ecological architecture must be rustic architecture with sinuous forms, half-buried in the ground, or nostalgic imitation of vernacular building forms.” This is, she adds, “an ecological architecture appropriate for our time.” She’s right.

Glenn Murcutt’s buildings strongly assert their manmade quality in their environment. But the architect’s reverence for the natural world is the main key to his work. In his houses, whether in urban or rural locations, he strives to connect the owner to nature’s ritual cycles. His unshakable faith in the absolute value of nature has led to his use of analogies between natural and architectural principles as catalysts of the design-generating process: the continuity and logic of structures, the importance of limits and articulations, adaptation to climate, and the restraint and efficiency of forms.

Murcutt, who practices just outside Sydney, also has an extensive knowledge of the complex Australian landscape, and endeavors to offer his interpretation of it in built form. For each new project, his thorough analysis of the site becomes one of his design tools: topography, flora, prevailing winds, temperatures, sun angles, rain, vistas, become part of the brief, determining siting, orientation, openings, and materials. Murcutt also attempts to let the constraints of the site shape the design so that disturbance is minimized – an attitude reminiscent of Ian McHarg’s pragmatic use of ecology.

An interest in traditional societies is evident in Murcutt’s work as well, particularly the way they dwell in relationship to place – landscape, climate, resources – and how they see it as sensible and timeless. During his first trip to Europe, in the early 1960s, Murcutt was impressed by the geometric shapes of the Greek villages and their clever, spectacular sittings and by Finland’s Modern architecture softened by local tradition and inspired by the landscape.

Murcutt often refers to design as a “chess game”; each new building implies for him a new strategy, with different data but identical rules. This has produced a “Murcutt typology,” which over several decades, has resulted in a rich and remarkably consistent oeuvre.

Françoise Fromonot is a practicing architect and writer who lives and works in Paris and Sydney. Her monograph on Glenn Murcutt will be published by Electa later this year.
The Vernacular Meets European Modernism

Unlike the traditional Australian house—historically a variation on stiff domestic patterns imported from England and merely adapted to the climate by the grafting of awnings or verandas—vernacular agricultural and industrial buildings have provided Murcutt with local examples of the "appropriateness to place" he seeks for his own architecture. He feels close to the aesthetics of necessity and the common-sense inventiveness displayed by timber and corrugated-iron barns, stores, woodsheds, and shearing sheds, adapted to function and responsive to climate. His work explicitly refers to these modest constructions, regional versions of widespread building types. Murcutt also "borrows" from them simple materials or devices he considers suitable to his own purpose—corrugated iron, glass louvers, or ventilation systems.

Since the mid-1980s, Murcutt has also become familiar with the original culture of Australian Aborigines, the now marginalized tribes he calls "traditional custodians of the land." In their both pragmatic and sacred relationship to their home, he sees a precedent for the symbiosis between man and nature he also strives for.

Concurrently, Murcutt's architecture is deeply indebted to European Modernism. Mies van der Rohe's 1946-1951 Farnsworth House and Pierre Chareau's 1928-1931 Maison de Verre have had a crucial impact on the modeling of his architectural vocabulary.

Murcutt has been familiar with Mies's work since the newly completed Farnsworth House was first published by Architectural Forum. Although his first work was more akin to the California architecture he admired while a student (Ellwood, the Case Study Houses) than to the sublime purity of Mies's steel and glass temples, there are direct quotes from Mies in early plans and details and a stated endorsement of his master's planning principles. The powerful image of the Farnsworth House remains somehow present throughout Murcutt's work as the elongated glass pavilion mediating between man and nature.

Murcutt visited Chareau's Maison de Verre in Paris during his 1973 round-the-world trip, and the liberating experience of its "modernity without dogma" gave his architecture a decisive impetus. Stimulated by the example of Chareau, Murcutt reconciled his equal taste for craftsmanship and industrial products: for instance, he uses standard components as often as possible, but alters them if required, like a semitailored garment. Affinities with the spirit of Chareau can also be traced in Murcutt's conception of his houses as adjustable machines, where light and air can be tuned to changing needs, and in the rational and poetic way he can express function, as demonstrated with éclat by his efficient and lyrical column-like rainwater pipes.
The Long Plan

The most striking of Murcutt's hallmarks is the long, lean rectangular plan, common to most of his houses but also to larger projects such as the regrettably unbuilt Broken Hill Museum. This recurrent shape echoes the stretched clear span volumes of Murcutt's influences (the Farnsworth House and the Australian shed), reflects a similar structural order (post and beam), and serves climatic efficiency (one-room-wide naves can easily be cross ventilated). The route through the building can even become a kind of narrative in the landscape. Validated by his discovery of comparable perceptions in Aboriginal culture, Murcutt has increasingly investigated this idea. At the Mount Wilson house, such an open-ended journey becomes the main feature of the project, describing the whole site and distributing the buildings on its way. The route comes from the access path, continues past the workshop on a slender timber bridge alongside a planted pond, crosses the house, then, going down a stairway, disappears into a scenery of trees and rocks towards a sweeping view of distant mountains. The subtle siting of the two pavilions further dramatizes the effect as the elevation above the sloping ground increases with the horizontal progression.

Thus Murcutt's plans appear simple and legible - two of his key words. The way he disciplines servant and served spaces also contributes to this clarity. The Bingi house presents the most radical version of an organization he has often explored. Circulation and "wet" areas are lined up on one side and living areas on the other, in parallel layers. The two opposite long façades are derived according to this distribution and to their orientation - almost hermetic and opaque to the south, while to the north (the sunny side in Australia) large glass windows can slide open onto the view. Such a dichotomy has always been a Murcutt favorite: his very first house, designed while still a student for Olympic swimmer John Devitt, was dubbed "the house with two faces" by a critic. In his isolated pavilions, Murcutt gathers all his spaces within a primary envelope, extruded from a typical cross-section - the largest-scaled sheet in his sets of working drawings. Even in his urban projects, this envelope is designed to differentiate the functional and the symbolic roles of protection and enclosure, related respectively to what Murcutt calls refuge and prospect. Roof and structure define the shelter; independent "skins" delimit the free plan; the interval between the specific shape of the roof and the constant height of these skins is left virtually open, often throughout the building, to ensure the constant legibility of this duality. Thus the winglike roof of the Bingi house seems to hover above the seven-foot-high façades and partition walls, wherever you stand inside the house.

It is in this sense that Murcutt most symbolically - and successfully - embodies in his buildings both the essential notion of shelter and the technological sophistication of Modern architecture.
Murcutt treats light as a Modern material and celebrates it in its local specificity. The interiors of his buildings are easy and fluid. Filtered or bounced, always controlled, a tamed flow of light reinforces spatial continuity. Insertions of glass between walls and ceilings, or in the corners of facades, allow unexpected glimpses beyond each room. In his numerous renovations, Murcutt shows his virtuosity in transmitting light and vistas throughout a house from distant or restricted openings. In the Paddington terrace house, for instance, he has split the street level in two and raised the back portion a couple of feet above the street side, thus creating a dramatic visual link between the north-facing living room veranda, one floor below, and the darker entrance hall.

But Murcutt also plays with a characteristic of the Australian light to separate rather than connect. He once again draws this observation from the Australian landscape, where a unique combination of species, soils, and harsh climates generates a tough but light, scattered flora and a discrete foliage disclosing the structure of the trees. Consequently, the external envelopes of Murcutt's buildings are often crisp, even sculptural. In his detailing, Murcutt likes to underline reliefs and discontinuities which will be further emphasized by this sharp, raw light: carefully dimensioned gaps between different planes (the floating roof, detached walls, and steel frame of the Paddington veranda); embossed expression of the envelope's sectional composition (the gable end of the Glenorie house); conspicuous folds or overhangs to accentuate cast shadows at the junctions between materials – almost a Classical device. From inside to outside, as soon as it crosses the glass fanlights between facade and roof, the ceiling turns from the smooth surface of timber or painted plasterboard to a mere exhibition of the bare purlins and their metal sheeting.
Architectural Research

Important current research into housing density, designing for those with dementia, and the globalization of the construction industry.

Can practicing architects tap into the latest research to improve their services and make the profession truly knowledge-based? P/A and the AIA/ASCA Research Council think so, which is why we're collaborating to identify outstanding research of practical value to architects and to disseminate it to the profession. The three projects presented here are heterogeneous, and illustrate the breadth of architectural research, the methods it can utilize, and the relevance of rigorous inquiry to the practice of architecture.

Douglas Kelbaugh's study of housing and urban density shows how design analysis can contribute to policy-making in such a critical area as affordability. Uriel Cohen's work on environments for dementia indicates how special user needs can be studied and supported through design. And David Hawk's examination of trends in the international construction industry demonstrates that those architects who wish to participate in complex projects may require new organizational responses and attitudes toward their clients.

Taken together, these studies affirm models of professional practice that are knowledge-based and process-oriented. As professionals, we have the tools for building a data base that can contribute to superior design, while adding value for our clients and increasing the credibility of architects in the eyes of the general public. The Research Council and P/A look forward to bringing readers more such examples in future issues.

Housing Affordability and Density: Regulatory Reform and Design Recommendations

Douglas Kelbaugh, Department of Architecture, University of Washington, Seattle, in collaboration with Mark Hinshaw and David Wright.

This interdisciplinary study analyzes housing affordability at neighborhood and community scales. Because the study addresses the diverse issues that affect housing affordability—design, building codes, zoning, housing policies, land-use regulations, and sprawl—it provides an unusually broad perspective of a chronic problem that is usually dealt with in a fragmented way. The underlying research, which attempts to integrate design with regulatory and planning issues, demonstrates the value of the collaboration between architects, planners, and policy experts in dealing with such a complex problem.

Part I of the study examines housing affordability in the context of the economic, environmental, and social costs of sprawl, including hidden costs and subsidies. Seven points of good community design are proposed, among them a sense of place, rekindling of the public realm.

Part II, focusing on land use and regulations, describes regulatory impediments to affordable housing. Twelve recommended land-use reforms are accompanied by citations of model ordinances drawn from various states. Recommendations include increased mixed-use zoning, model design guidelines to replace zoning codes, more flexible development standards, density incentives, and time limits on permit processing.

Part III presents survey results from professionals in the Washington state's housing industry on costly, unnecessary, or conflicting code requirements. Recommendations include establishing a cost benefit analysis for code changes and interpretations and allowing test-case deviations from codes to encourage new cost-saving ideas.

Design issues and techniques to lessen the impact of higher-density development on surrounding neighborhoods are presented in the final section. Drawings of illustrative designs for urban and suburban housing are presented in a supplement, Designing for Density: Ideas for More Compact Housing and Communities. Design ideas generated in a five-day workshop on an urban village adjacent to downtown Seattle are presented in a second supplement, Envisioning an Urban Village: The Seattle Commons Charrette. The final chapter examines 17 case studies of existing high-density housing projects.

The three-volume study is available for $35; checks should be made payable to the University of Washington, and sent to Department of Architecture, JO-20, University of Washington, Seattle, WA 98195. For more information contact: Joanne Hanley, (206) 685-8407, Fax: (206) 543-2463.
Committee Comments:
Comprising a complete range of programming and design services, this project exemplifies the utilization of research in practice. It is an especially appropriate approach to being dependent upon having an environment that is fine-tuned to special needs.

Environments for People with Dementia

Institute on Aging and the Environment, School of Architecture and Urban Planning, University of Wisconsin, Milwaukee, WI 53201.

People with dementia, and those who care for them, demand specially designed environments. This study addresses their needs in a variety of settings, including homes, day care and respite centers, group homes, various forms of assisted living environments, and long-term care facilities.

Initiated by a seed grant from the AIA/ACSA Health Facilities Research Program, the seven-project series covers the whole development continuum, from examining problems, establishing goals, developing design guidance, demonstrating potential design applications through the development of generic prototypes, and providing programming and design assistance, to evaluating design applications.

The researchers have produced two books, numerous articles and book chapters, over 60 presentations in national and international conferences, and a design assistance program serving over 30 design projects across the US. The results of the research are directly applicable to architectural practice and the field of care-giving. They synthesize key research-based design principles, offering solutions that respond to the needs of people with cognitive impairments.

For more information contact: Uriel Cohen, (414) 229-6481, Fax: (414) 229-6976.

Conditions of Success:
Internationalization of the Construction Industry

David L. Hawk, Schools of Architecture and Industrial Management, New Jersey Institute of Technology, Newark.

This study focuses on the building industry around the world, which is undergoing reformations to meet increasing client demands for higher efficiencies and higher quality in building products. The impetus behind such demands springs from the growing importance of international clients and construction firms. Clients find they can get better for less from providers in other parts of the world. This is shaking the building industry in most developed countries.

The study, based on interviews with major players in the field worldwide, identifies a number of issues that are reshaping the construction industry. Among them:

- Changing consumer ideas: consumers increasingly expect higher quality workmanship, at lower costs, with greater environmental sensitivity.
- A search for new business ideas and customers: ideas and potential customers may be found in new kinds of built environments such as new housing typologies and leisure-time facilities, environmental concerns, and technological and material developments.
- Adding value through design and procurement: systems sciences to organize design, beyond the traditions of architects and engineers, adds value, as do new approaches to materials and component production.
- Building a knowledge base for construction: Construction needs to invest in a scientific-technological knowledge base for continuously improving the quality and efficiency of what it does.
- Emerging strengths of the Japanese model: its successes come from a combination of innovative organization, adaptiveness, and hard work by people who believe that what they do matters.

The study elaborates on these issues, and presents ways in which the different players in the construction industry, including architects, can adapt to these changes.

For more information contact: David Hawk, (201) 596-3019, Fax: (201) 761-5204.
Shaper of Perceptions

In more than 50 years of work, California photographer Julius Shulman expertly cast Modern architecture in the best light.

When Julius Shulman began photographing Modern architecture in California in the 1930s, the ethic and the aesthetic were unknown and somewhat suspect entities in the public's eye. What he accomplished is lavishly illustrated in *A Constructed View: The Architectural Photography of Julius Shulman*, a monograph by Joseph Rosa due out from Rizzoli this month. Shulman significantly influenced and educated popular perceptions of the austere imported style, interpreting and disseminating the built works of Californian masters such as Richard Neutra, Raphael Soriano, Gregory Ain, and John Lautner. Far from being apologetic about his avowedly "subjective" pictures, the photographer saw himself as a "propagandist," obligated to manipulate the images in the cause of "selling" good design.

Light, deep shade, and shadow are employed by Shulman to bring out the architecture's most salient characteristics of form, material, and texture. In his 1947 photograph of Clark & Frey's Frey House in Palm Springs (left), the play of sunlight and shadow brings out every nuance of the metal structure. Likewise, contrasts and gradations of light in a 1946 interior (above), vividly convey the graining, woody textures of Gordon Drake's Los Angeles house.
The photographer's famous 1947 image of Richard Neutra's Kaufmann House in Palm Springs (above) was produced using only the house's interior lights in a 45-minute exposure; the radiant sky tones were brought back by manipulating the print in the darkroom. For Shulman such darkroom techniques "are as much a part of the photographic process as clicking the camera shutter." Another strategy used frequently to capture the ethos behind the style involved careful staging: the 1959 image of Robert Skinner's Los Angeles House (near right) was taken from the imaginary vantage point of a stuffed toy animal; the children populating the scene seem taller, and as author Rosa points out, they "illustrate ... typical domestic and gendered roles." Shulman was known to frame photographs of new buildings with imported plants placed strategically in the foreground. But to illustrate how well the rocky formation of John Lautner's Wolff House (far right) fit into its hilly context, Shulman returned nine years after the building's 1961 completion to shoot it with mature vegetation.
New Life For Old Plants

Old factories are being rediscovered by nonprofit and for-profit corporations alike as ideal environments in which to start new companies and partnerships. by Thomas Fisher

Some old chemical plants and a partially abandoned gun factory may seem far removed from the concerns of architects. But these and hundreds of other aging industrial facilities around the country are becoming sites of an industrial revolution, of sorts. And architects not only may benefit from this transformation, but may be essential to its success.

Some factories, especially those abandoned in inner cities, are being converted by nonprofit corporations into incubator facilities, where young entrepreneurial firms, offering a range of custom services and products, can get started with both public and private support. Other plants, built for mass production, are being rehabilitated by their corporate owners as research and development sites for new technologies, often in start-up partnerships with other companies. There are currently over 500 incubator facilities in the U.S. alone, according to the National Business Incubation Association in Athens, Ohio. And the growth of such facilities is just beginning.

Global Competition
One of the factors behind this trend has been the rapid rise of a global economy. As "older, heavy industries," write Secretary Reich, "move to where labor is cheapest and most accessible around the world ... America's core corporations are gradually, often painfully, turning toward serving the unique needs of particular customers. The firms that are succeeding are shifting from high volume to high value."

In some respects, these high-value enterprises are turning the ideas of the first industrial revolution on their head. Where mass-production of commodities once reigned, innovation and customization are now the way to profitability. Where labor and management once feuded, employees are increasingly seen as collaborators. Where large-scale corporations once controlled markets, smaller upstart operations are leading in several industries. And where the character of industrial facilities was once a relatively minor concern, it is now viewed by many companies as critical to enhancing worker productivity and attracting high-skilled employees.

Some old chemical plants and a partially abandoned gun factory may seem far removed from the concerns of architects. But these and hundreds of other aging industrial facilities around the country are becoming sites of an industrial revolution, of sorts. And architects not only may benefit from this transformation, but may be essential to its success.

Some factories, especially those abandoned in inner cities, are being converted by nonprofit corporations into incubator facilities, where young entrepreneurial firms, offering a range of custom services and products, can get started with both public and private support. Other plants, built for mass production, are being rehabilitated by their corporate owners as research and development sites for new technologies, often in start-up partnerships with other companies.

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Science Park
New Haven, Connecticut

Established in 1982 by state and city governments along with Yale and Olin Corporation, Science Park is an industrial incubator, with almost 100 companies employing 2,000 people. Occupying an 80-acre inner-city site in New Haven, it has more than a dozen buildings totaling nearly one million square feet.

Svigals Associates has done much of the fit-out work for tenants. The firm has also worked at a larger scale there. Svigals took part in the first master plan of the park in 1987, done with Herbert S. Newman & Partners and Urban Design Associates. That plan envisioned a university-like campus (connected by light rail to the downtown), now somewhat obsolete with the construction of a new 250,000-square-foot factory by Dubose Associates.

Svigals has rehabilitated building four, soon to be partly occupied by Kodak, and is studying rehab options for another structure. "The ideal incubator building," says Svigals, "is a series of 8,000-to-12,000-square-foot, three-to-four-story-high increments, each with its own core and its own identity. The difficulty is gaining identity to companies in a situation that is mutating all the time."

Four Science Park
Architects: Svigals Associates, New Haven, Connecticut (Barry Svigals, principal; Jay Brozman, project architect; Ann Sellars, Robert Skolozdra, design team);
Consultants: Decarlo & Doll (structural, environmental, cm), Martin – Horton Associates (structural).

The Role of Design
This is all good news for architects. "Before, process engineers laid out factories," says John Schuyler of Haines Lundberg Waehler, "with E/A firms giving some design input. Now architects are becoming more involved," in part because of a concern about image on the part of startup companies and partnerships. What was once accepted in old factories – rusting buildings, chaotic plant layouts, badly maintained interior space – is no long acceptable to owners trying to convince tenants, strategic partners, or Wall-Street investors to join forces with them. The same is true of startup operations for corporate investment.

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Focus on Employees
If improving the image and organization of these facilities is central to attracting tenants or corporate investment, it is equally important in retaining skilled workers, who are becoming crucial to the success of companies. "In the high-value enterprise," writes Secretary Reich, "profits derive not from scale and volume but from continuous discovery of new linkages between solutions and needs." To achieve that, factories must be seen not as enclosures for machines, but as places for people to innovate.

Even if these owners don't like spending money, "when they do," observes Kenneth Drake of HLW, "they want it to have an impact on the image of the place. For architects, that means getting involved in everything from repainting and re-cladding structures, to building new plant entries and visitor facilities, to upgrading HVAC and other systems, to organizing and clarifying pedestrian and vehicular circulation.

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Factories have tended to do just the opposite, separating production workers from management and providing few places for workers to share ideas or retrain. "Companies have begun to realize," says Stuart Peretz of HLW, "that when the union guy is treated the same as the salaried guy, things go easier and cost less money."

That equality translates into many changes, both large and small, in the rehabilitation of older factories. Blue- and white-collar employees are increasingly using the same parking lots, the same entries, and the same cafeterias, requiring the redesign of once-segregated facilities. Paved areas are being torn up and buildings torn down to make way for trees and outdoor gathering and recreation space. And conference rooms and employee lounges are being designed and built to be accessible to all. At the same time, companies are shifting their view of what a factory should be; it is no longer a big machine but a small city of people. "We never paid attention to aesthetics before," says Nancy Win-Alderson, project engineer for Pfizer. "Buildings were erected ad hoc; there was no city planning."

The Importance of Training
With these changes, though, has come a change in the relationship of employers and employees. Companies are laying off workers and retraining those who remain to handle jobs of much greater complexity. As Pfizer plant manager Robert Schachner puts it, "We treat our employees as business partners. They have to be flexible and cross-trained, and many are on call 24 hours." Training facilities, rarely seen

New Haven consulting firm, Science Park Associates, "don't have a lot of working capital. Also, most entrepreneurs are frugal and don't want to spend big bucks on plush offices." Companies rehabilitating factories for use in research and development have similar constraints. "Wall Street and the focus on quarterly returns drive down the dollars spent on industrial facilities," notes Stuart Peretz of HLW.

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before in factories, have thus become a central feature in keeping current with changing technology. "In other coun-
dtries, manufacturing workers have status," adds Schachner.

"In the U.S., we have much to learn in the area of worker
training." That suggests a new, more public role for industrial facili-
ties, where the training is not just of employees, but of the local
population, as an extension of school. Architect Barry Svigals,
whose firm, Svigals Associates, has been rehabilitating indus-
trial incubator space for over a decade, points out that many
companies and communities alike, since both are increasingly
dependent upon highly skilled workers to survive.

Environmental Compliance
A third reason why old factories are being rehabilitated, in
addition to global competition and employee productivity, is
the need to comply with environmental regulations. In many
states, if companies abandon an industrial site, they must
leave it clean, while if they stay and rehabilitate the property,
they can stretch out the clean up. "Companies are finding that
it is too expensive to shut plants down," says Stuart Pertz, "so
they are turning around and improving them.

The pollution on a site, nevertheless, presents the owner
with special problems. Owners may have to spend money to mitigate below-grade pollution, while archi-
tects may have to deal with hazards such as lead paint and

opportunities for Architects
No architect involved in this type of work will tell you it is
glamorous. Much of it entails small-scale interventions: a
new conference room or a reconfigured cafeteria here, a few-
thousand square feet of offices for a start-up company there.
Still, this work has definite compensations. First, it tends to be steady. Some firms are part of a package of services that an incubator facility will offer a new tenant, so
that the start-up company can get into its space quickly, at low
cost, without hassles. Other firms have developed long-term
relationships with companies, doing whatever is needed.
Second, this work is valued by clients. "When clients see
an architect analyzing the organization and making recom-
mandations that may involve little or no construction," says
Stuart Pertz, "you gain their confidence." Even small tasks,"
adds Chad Floyd, "such as putting together a slide show to help a company sell a project, are services that clients value." Finally, this work is important. It may never win design
awards and may only rarely be published in an architectural
magazine, but it stands at the leading edge of economic
thinking and public policy, in the center of current debates
about global competition, worker retraining, inner-city revi-
talization, and environmental responsibility.

Architects arrived rather late at the first industrial revolu-
tion, missing opportunities because some believed that it had
nothing to do with Architecture. May we not be so foolish the
second time around.
Sound Insulation
A frequent application of CMU is for sound insulation where its mass and stiffness are superior to other materials or forms of construction. The transmission loss of CMU is improved by increasing the material's weight or thickness, or by decreasing its porosity. A table (4) on the facing page provides representative Sound Transmission Class (STC) ratings for several single-wythe CMU walls. Increasing the STC rating by 10 points results in a subjective sound insulation of 50 percent. Some variability will exist in the STC ratings of CMU because of differences in aggregate weights used by CMU manufacturers.

Specifying thicker CMU is a practical means to increase transmission loss. A maximum thickness of 12 inches for single-wythe CMU walls is reasonable where common building structural systems are specified. Beyond this thickness, specifying double-wythe walls, using smaller or lighter weight CMU, is recommended to increase sound insulation performance while maintaining conventional structural systems.

Sealing CMU is necessary to maximize its transmission loss performance. Comparable improvements in STC values are obtained by sealing one side of the CMU with 1/2-inch-thick plaster, three coats of latex paint, or epoxy sealant. Unsealed normal weight CMU has STC ratings reduced one to two points (4), while unsealed, lightweight, porous CMU has STC ratings reduced by up to eight points.

Transmission loss performance of CMU can also be improved by filling the cells of the block, thus increasing mass and reducing porosity. A graph (2) on the facing page compares transmission loss data for 9-inch-thick empty-cell CMU and the typical improvements resulting from filling the cells with lightweight insulation or grout. Lightweight insulation can improve STC ratings by up to three points, and grout or sand can improve ratings by up to eight points.

Double-wythe CMU made of thinner or lightweight material, separated by an air space of three inches or greater, and filled with cavity insulation, can surpass the transmission loss performance of thicker or heavier, single-wythe walls.

Sound Absorption
Acoustical Design Collaborative, Ltd., constituent consultant and part-time instructor in architectural acoustics and audio technology at two Washington, D.C., area universities.

Glossary
Flanking Path: a sound transmission path other than the common element (such as a wall) separating two enclosed spaces.
Hertz: a unit of measurement for the frequency of sound in cycles per second.
Noise Isolation Class (NIC): a single number rating based on noise reduction data from 125 to 4,000 Hz.
Noise Reduction Coefficient (NRC): a single number rating based on the average of the sound absorption coefficients from 250 to 2,000 Hz.
Quadratic Residue: a residual number that is independent of the material's size, where sound is scattered from a surface.
Resonant Frequency: a frequency at which a surface absorbs sound due to energy dissipation at the surface.
Transmission Loss (TL): a measure of sound insulation at a specific frequency that is independent of the material's size and room absorptivity.
Connections between the separate wythes, either through structural ties, mortar droppings, or through floor or ceiling slabs, can limit transmission loss performance.

Improvements in STC ratings from 8 to more than 30 points are possible with double-wythe walls, depending on the CMU thickness, separation, and ties between wythes. The reduction in transmission loss (3) for a cavity-coupled double-wythe wall, compared to the uncoupled condition, affects all frequencies but is more pronounced below approximately 80 Hz (a frequency comparable to mechanical room noise).

Direct attachment or furring of GWB to CMU walls is another method to improve transmission loss performance. The degree of improvement will depend on the spacing between the GWB and the CMU, the rigidity of attachment, and the presence of cavity insulation. A table (5) on page 89 summarizes the improvement in STC ratings for CMU walls with various attachments of half-inch GWB. Combined CMU and GWB wall constructions with STC ratings of 45 to 50 meet the sound insulation requirements of most building codes for party walls in multi-unit dwellings and hotels. Care should be taken in specifying GWB over CMU where low-frequency sound (such as from mechanical rooms) requires isolation. Contrast to intuition, the low frequency transmission loss performance can be eroded by as much as 10 dB because of the GWB, compared to the CMU alone.

### Sound Absorption

Standard CMU does not possess a high degree of sound absorption in contrast to conventional "acoustical treatments" such as glass-fiber acoustical panels. CMU sound-absorption properties are relatively constant with a given frequency and they depend on the weight and porosity of the aggregate. Lightweight aggregates or aggregates with small, uniform pore structures have higher sound absorption than normal-weight aggregates or aggregates with large and nonuniform pore structures. Sealing CMU reduces its sound absorption. A table (6) on page 89 summarizes representative Noise Reduction Coefficient (NRC) values for CMU of different aggregate weights and porosities.

CMU with molded slots in the face walls sound to pass through to the air volume within the cell cavities (known as Helmholtz resonators) and can be specified when high sound absorption below 500 Hz is required. The CMU can be "tuned" to provide greater sound absorption at specific frequencies by varying the slot shape, the cell cavity volume, or by installing insulation in the cell cavities to broaden the frequency range of the absorbed sound. The graph (7) on the facing page compares the absorptivity properties of sealed sound-absorptive and standard products.

Absorptive CMU should be selected according to the frequency content of the noise source, the reverberation time in the space, and the absorptive properties of other finish materials. Sound-absorbing CMU can be specified to reduce noise levels or shorten reverberation times in low-maintenance spaces such as factories, gymnasiums, nurseries, or prison day rooms. Sound-absorbing CMU with cavity insulation should not be specified for locations exposed to high humidity or moisture.

### Sound Diffusion

Another type of CMU can be specified when sound diffusion is required, such as in an auditorium. This material (1) uses several smaller "component" blocks keyed for sequenced installation to provide a "quadratic-residue" sound field. Some of these products are available with optional molded slots in the face and cavity insulation inserts that also provide sound absorption.

Sound-diffusing CMU is of particular advantage in music performance spaces where shaped wall surfaces are necessary. The sound-diffusing properties of CMU can increase the sensation of auditory spaciousness and can reduce reflected sound levels from potentially echo-producing surfaces such as rear walls. When installed in music performance spaces, sound-diffusing CMU does not require cavity insulation inserts since the seating usually provides ample acoustical absorption.

### Installation Details

Flexible connections in double-wythe CMU walls maximize sound insulation. Conversely, stiff wire ties can reduce the transmission loss of double-wythe walls by 125 Hz. Specialty engineered masonry installation hardware can be used to interconnect CMU wythes, which reduce coupling and provide lateral stability to the wall. Wall section details (10, 11) show some strategies to cut sound transmission. Neoprene wall sway braces are installed on four-foot centers to connect wythes. Metal channels with neoprene elements are used to isolate and restrain the top CMU course. First CMU course is laid on a neoprene- or segmented fiberglass track to isolate the material from the floor slab. A structural break or cut in the floor and ceiling slabs can be specified to reduce "sound flanking" via these paths. These installation often necessary to preserve wall STC ratings greater than 65 and to diminish measures are sound-flanking paths. (continued on page 103)
Cagelike volumes containing the inn's guest rooms are paired and prominent chimney blocks. Buff stucco and "Charleston green" wood trim are traditional locally. Concrete bands at the base of the building allow for accurate lawn mowing without damage, and they keep phosphate-laden mud from splattering on the dark painted wood.

Pines on the central lawn, which architect W.G. Clark had wanted cut down, were eliminated in 1989 by Hurricane Hugo.

**Critique:**

The Art of Accommodation

Can high-minded architecture help an enterprise through difficulties? At the Middleton Inn in South Carolina, design seems to have inspired a crucial persistence. by John Morris Dixon

Designed by the Charleston firm of Clark & Menefee and completed in 1985, Middleton Inn was quickly recognized as exceptional, winning a cover story in the May 1986 P/A and a national AIA Honor Award. At a time of numerous competing design strategies, this modest inn was making an effective plea for order, craftsmanship, and sensitivity to setting. I immediately entered it on my informal list of buildings to visit. When that opportunity came, several years later, I found the reality of the inn a gratifying fulfillment of its promise in print. Calling in advance for a reservation, I had been cautioned that this is a "contemporary" inn, in case I was expecting something historic or pseudohistoric in this garden pilgrimage zone outside Charleston. The management has since publicized brochures that illustrate the buildings and describe them as "a 20th-Century counterpart" to Middleton Place, the 18th- and 19th-Century gardens — with only remnants of them as "a 20th-Century counterpoint" to Middleton Place, have enhanced customer appeal: an incentive, but only if it followed the Secretary of Interior's standing rule: the new portion must in no way imitate the old fabric. An addition to one of these auxiliary buildings proved meeting/banquet facility at the Place makes possible more conference business; special tours such as a "water, woods, and wildlife" experience take advantage of the Place's 6,500 acres of wilderness. Duell reports that the inn broke even in 1993 and may make a modest profit this year.

Conceiving a Different Kind of Inn

Duell has played the patron's role from the initiation of the project. He and his associates visited inns around the country. (The legendary Ventana Inn at Big Sur, California, was one inspiration.) They contacted a number of nationally known architects, but chose W.G. Clark, who had set up an office in Charleston after six years with the Venturi firm. (The firm of Clark & Menefee has since moved to Charlottesville, Virginia, where both partners teach at U.Va.) Clark had remodeled a few outbuildings on the Middleton Place property, generating confidence that won him this much larger commission, still his largest completed work. The influence of these earlier renovations not only clinched the choice of architects, but strongly affected the client's attitude toward design. An addition to one of these auxiliary buildings (actually a 1930s NeoGeorgian structure) qualified for a tax incentive, but only if it followed the Secretary of interior's standing rule: the new portion must in no way imitate the old fabric. The success of this addition as a counterpoint in the historic complex set the example for the inn, for its overall Modernist approach down to the choice of paint color. Clark's parti for the inn was based on the original 25-room program and on topographic peculiarities of the site. Nineteenth-Century phosphate mining along the river had left a neatly rectangular terrace notched into the bank, a plateau that sustained only scattered pine, rather than the jungle of mixed hardwoods flourishing elsewhere on the site. Clark deliberately stretched his clusters of guest rooms around the brink of this depression — which became a lawn — exploiting the one-story drop in level to minimize stair-climbing for the three-story blocks. When 30 more units were added, they were scattered at three other locations, where the fit with terrain is not quite as effective.

The view from a guest room across the cleared lawn, includes the inn's lodge, the Ashley River, and the protected marshlands beyond. A swimming pool is notched into the bank. The breakfast area on the lower floor of the lodge, reached by a ceremonial stair from the reception space, is ideally sited to catch the morning sun.

The stucco ramparts of the inn's south walls, formerly hidden by dense forest, are now seen by approaching visitors through the remaining trees.

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Walls of stucco over brick follow South Carolina tradition and show tree shadows more effectively than bare brick; used this way, the stucco needs no expansion joints, and surface damage is no great problem. Stair look like stuccoed precedents in Charleston, but are actually cast concrete.

Rooming in a Metaphorical Ruin

It is in the L-shaped main building group that Clark's design can best be appreciated. The arriving visitor confronts a 200-foot-long phalanx of blank stucco walls, interrupted as in some large-scaled ruin (somewhat aptly, since the center of Middleton Place is the heaped brick ruins of its plantation house). Some gaps in this rampart frame tempting views toward the river to the north, and others contain dark-house). Some gaps in this rampart frame tempting views toward the river, is the "lodge," which houses registration, lounge, and breakfast facilities.

The sequence of entering the individual guest rooms explains how they are clustered in pairs flanking an articulated chimney wall. Slit windows that yield raking views along the outsides of parts, although the dark green paint blunts these distinctions. Daylight enters the niche from an open clerestory and narrow windows make a visual link between the niche and the room.

Compartmented bathrooms occupy a linear service zone and are characterized by hard surfaces—marble floors and tile walls—under a low stuccoed vault. Glass block at the back of the oversized tub was sand-blasted on the outside for greater light diffusion.

By contrast, the guest rooms are spacious and bounded by wood surfaces. Guests seem to enjoy varying lighting and the chance to frame views by manipulating the Ponderosa pine shutters.

For Tara, Look Elsewhere

Charles Duell says some potential guests, perhaps those less sophisticated about design, are seriously disappointed to find that the inn "doesn't look like Tara," and some of them even leave in haste. Yet almost everyone who stays the night, he claims, becomes an "aficionado" of the inn. Refined design does seem to count with the inn's patrons—understandably since the initial attraction to Middleton Place is its willful, orderly landscape. The attraction here was never bowers of blossoms reflected in naturalistic ponds, but the rather austere remains of one of America's first and greatest geometrical, Baroque gardens. While superficially there may be a contrast between the historic site here and its resolutely Modernist annex, both represent the cerebral satisfactions of thoughtful design.

Project: Middleton Inn, Charleston, South Carolina. Architects: Clark & Menefee Architects, Charleston (now in Charlottesville, Va.), in association with Charleston Architectural Group. Consultants: Sheila Wertimer, landscape; Dian Boone, interiors (including custom furniture design); Robert A. Shoobridge, structural; Rosser White Hobbs Davidson McClellan Kelly, mechanical; G. Robert George, civil.
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(continued on page 98)
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AIA: Worth the Price of Admission?
(continued from page 65) voted to add another board member!

An AIA Troika
Weiss had other suggestions to make the AIA more effective, which the board has given lukewarm reception. He concluded that the Institute would benefit by splitting into three entities – an AIA trinity of nonhierarchical, mutually supportive parts. This would eliminate the crazy quilt of 300 overlapping components. Local chapters would provide collegiality, information, and education for professional development. State councils would focus on state-level lobbying and public promotion of the profession. AIA national’s platform would be at the national level to promote the profession through Federal lobbying, and to provide credentials beyond state registration. He further suggests breaking national into three centers: member support services would be located in the Midwest, component support services would be on the West Coast, and public policy and outreach would be conducted in Washington.

Cramer and the board apparently reacted to this last suggestion in typical Beltway fashion. "We wondered whether moving out of Washington could reduce overhead and get us closer to the member," says Cramer. "We discovered that it wouldn’t save money, and in this day of 800 phone numbers, we don’t need to move." At the Grassroots meeting, attendees were reluctant to change the chapter structure, but thought the chapters should provide services, not the national AIA.

There are developments on the horizon that may make or break the Institute. The first threat arises from the board’s decision last June to end supplemental dues in 1997. This will result in an estimated revenue shortfall of $3.2 million and (if Weiss is correct about the loss of members whose dues are not subsidized) a substantial drop in membership. The AIA’s national leadership is now scrambling to figure out how to boost revenue. One plan is to set individual member dues at $390 across the board, and another is to cut deals with firms on AIA products and services by making prices significantly higher for nonmembers. Renegotiating the publishing deal on Architecture with Billboard Publications (under which Billboard publishes the magazine) might bring (continued on page 102)
Sound Blocks

(continued from page 91) building codes should be checked to verify acceptability of these wall and floor constructions. Structure-borne sound can be transmitted via sound-flanking paths in a CMU wall and can radiate into adjoining spaces. Flexible expansion or control joints installed at regular intervals along the CMU wall can provide a discontinuous construction and reduce sound-flanking paths around the wall.

Acoustical leaks or openings in CMU walls can severely degrade transmission loss performance. Cracks equal to 1 percent of the wall area can reduce the transmission loss by as much as 40 dB. Sealing cracks and openings at mortar joints and in CMU is necessary to achieve optimum sound-insulation performance. Sound-absorbing and diffusion CMU should be laid in a full bed of mortar during installation to close off potential acoustical leaks at their slot openings. Electrical fixtures should be surface-mounted on CMU walls that have either grout- or sand-filled cells.

Conclusion

While this article covers the basic principles of acoustical design using CMU, the architect should consider consulting an acoustician for projects that require superior acoustical characteristics. However, when carefully selected and detailed, the common material of CMU can deliver outstanding acoustical performance.

Recommended Reading


Various publications from the National Concrete Masonry Association, P.O. Box 781, Herndon, VA 22070. (703) 713-1900.
For the Seafirst Gallery in Seattle, the local firm of NBBJ Architects developed a movable partition system that gives the 3,000-square-foot space flexibility. This practical aspect is married to artful detailing of the partitions that glide into place on elegant bronze spheres.

According to project architect Brent Rogers, each element of the partition system is articulated according to its function. Motion is expressed in bronze, in the form of an eight-inch cast bronze sphere that rolls along a bronze recessed floor track. The track’s concave surface matches the radius of the sphere for a snug fit.

A steel W6x20 section, zinc-plated and acid-etched, connects the sphere to the underside of the partition. The partition is wood frame clad with 5/8-inch gypsum wallboard over 3/4-inch plywood. The partition surface allows objects to be hung at any location on the surface without the use of molly bolts.

Wood is used as a neutral material on elements such as the gallery’s floor, which is maple. The handle that operates the partition’s spring-loaded cane bolt is made of “ironwood” (its species name is lignum vitae). Known for its strength and durability, ironwood was commonly used for ships’ gears, and was selected for this detail to resist the shear and structural loads generated by its function as a handle. Michael J. Crabbie
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