Azrock's new Vinylcraft I Color System offers unlimited design opportunities.

Azrock has expanded the Vinylcraft I line to five patterns and grouped them in the Vinylcraft I Color System for more floor design versatility.

The striking patterns — Vinyl Quarry, Abbey Stone and new Vinyl Brick, Vinyl Paver and Vinyl Slate — can be mixed or matched within the Color System to create one-of-a-kind custom floors. Almond, red, adobe, blue gray and putty are the five background colors that are common to each pattern.

Vinylcraft I patterns have the rugged good looks of natural flooring materials. These vinyl composition tiles are 1/8" gauge, 12" x 12" size, and ideal for commercial and residential interiors. Now there's no limit to what you can do with Vinylcraft I. See your Azrock flooring contractor or write Azrock Floor Products, Dept. 419A, P.O. Box 34030, San Antonio, Texas 78265.

Floor shown: Vinyl Slate

High style in resilient floor tile.
LIGHTING REINVENTED

Consider this problem: producing good, even lighting in a drafting room—under a 7'6" ceiling! Impossible, without the high efficiency, wide distribution and low brightness of Softshine optics. Here, down lights and up lights alternate at 8' intervals, giving every station comfortable work light, even at night. The desk lamps are there just to make the architects feel at home. Contact us to see more reinventions, more impossibilities.

LONGLITES BY PEERLESS
PEERLESS ELECTRIC COMPANY, BOX 2556, BERKELEY CA 94702-0556. TELEPHONE (415) 845-2760

Circle No. 352 on Reader Service Card
Surfaces: modular carpet coordinates by Lees

The Chesapeake and Potomac Telephone Companies applied interior architecture to create striking visuals in a new kind of office interior. A state-of-the-art modular carpet system by Lees covers all floors.

Coordinates. Surfaces is a carpet tile system that offers uncommon design flexibility. A fashionable color palette, a limitless array of patterns, and broadloom coordinates are among the options.

Flexibility. Tiles laid over raised floor lift free for quick, easy access to power, telephone, and computer cable. Lees modular carpets are also compatible with all flat wire distribution systems.

Appearance. Dense construction and tailored fringe texture make a durable wear surface. Antron® nylon yarn by DuPont is dirt-resistant and static-protected. Superior appearance retention reduces maintenance costs.

Guaranteed. Lees backs the system with a comprehensive warranty. No manufacturer of carpet tile goes so far to guarantee performance satisfaction.


Lees, The Contract Carpet Company. Live the life of Lees at work and at home.

The Chesapeake and Potomac Telephone Companies applied interior architecture to create striking visuals in a new kind of office interior. A state-of-the-art modular carpet system by Lees covers all floors.

Coordinates. Surfaces is a carpet tile system that offers uncommon design flexibility. A fashionable color palette, a limitless array of patterns, and broadloom coordinates are among the options.

Flexibility. Tiles laid over raised floor lift free for quick, easy access to power, telephone, and computer cable. Lees modular carpets are also compatible with all flat wire distribution systems.

Appearance. Dense construction and tailored fringe texture make a durable wear surface. Antron® nylon yarn by DuPont is dirt-resistant and static-protected. Superior appearance retention reduces maintenance costs.

Guaranteed. Lees backs the system with a comprehensive warranty. No manufacturer of carpet tile goes so far to guarantee performance satisfaction.


Lees, The Contract Carpet Company. Live the life of Lees at work and at home.
Subsidized housing
At a time when the need for public housing is increasing and architects are designing projects more creatively, federal funds are drying up.

Living with the sun
For the elderly in Roosevelt, N.J., Kelbaugh & Lee have created solar housing reminiscent of an English town.

A sign of the times
Somerset Parkside Housing, a mix of condominiums and subsidized rental housing in Sacramento, Calif., by Van der Ryn, Calthorpe & Matthews integrates energy conservation and urban design elements. Sally Woodbridge

Overcoming HUD
Plymouth Place Housing, Stockton, Calif., by Mutlow Dimster Partnership includes special considerations for the elderly. Sally Woodbridge

Community of differences
Lyndon/Buchanan’s University Avenue Cooperative Homes in Berkeley, Calif., offer affordable housing without a housing project image. Sally Woodbridge

Beyond cosmetics
Two public housing rehabs that go beyond surface improvements are West Broadway in Boston by Lane/Frenchman and Goody, Clancy & Associates and Lake West in West Dallas by Peterson, Littenberg.

Essays on social housing
Several authorities on housing discuss social housing in the United States.

Dealing with the affordability crisis. Chester Hartman
The dim phoenix: U.S. social housing. George SterneIb

Why housing vouchers. Anthony Downs
Integrating housing with other efforts. Peter Calhorne
Needed: A new housing movement. C. Richard Hatch
Redesigning the American Dream. Dolores Hayden

Expanding the architect’s design concerns. Oscar Newman
Elderly housing: Warping the design process. Sandra C. Howell

Particulars of housing design. Donlyn Lyndon
Need for variety and personalization. Joan Gooden and John Clancy

With Ma in mind
A shop designed by Rei Kawakubo, Comme des Garçons in New York, integrates fashion and interior design.

Cheese biz
Guido Canali has designed new headquarters for a cheese consortium in Reggio-Emilia, Italy, that includes offices, labs, and dairy.

Instant housing
Third World housing can use our technology, but can also provide us with lessons. A report by Jean-Paul Bourdier on Mauritania housing is included.
Tech Wall, the uncommonly beautiful, unusually colorful, uncompromised aluminum wall panel!

Since its introduction several years ago, Tech Wall has become an architectural sensation! The complete Tech Wall system offers architects and builders a solid, uncompromised option where a hi-tech, zero site line, metal skin is the look of choice. Proven in numerous installations throughout the world, Tech Wall's features and benefits are unmatched by its look-alike competitors, many of which are thin-skinned composites. Water can't hurt it; it's non-flammable; and it will never deform.

A SUPERIOR SYSTEM

Tech Wall's superiority is a matter of record. The system has been designed, tested and field proven to withstand typhoon wind-loading conditions.

Superior flatness is assured by Tech Wall's panel edge design. The edge also adds remarkable overall strength and maximizes panel flatness.

And, Tech Wall is capable of ultra-smooth contouring and transitional bends.

MORE COLORS, BETTER FINISHES

Unlike composites, Tech Wall panels are formed and contoured before finishing. An additional step, but it eliminates the cracking, crazing and micro-splitting of finish films inherent in contouring pre-coated materials. Tech Wall offers a greater choice of finishes too. Besides clear anodize, there are 20 Kynar® Tri-X metallic finishes, as well as 20 standard Kynar 500 fluoropolymer coatings. Custom colors and other finishes are also available.

ONE SOURCE

There are no potential installation snafus with Tech Wall. Unlike some composite systems which involve a separate manufacturer, fabricator, distributor and installer, we handle everything from detailing through installation.

COSTS NO MORE

Best of all, Tech Wall is the premium wall system without a premium price. It costs no more than the compromised alternatives!

CONSPEC SYSTEMS, INC.

Cranford, N.J. 201-272-2771
San Marcos, Ca. 619-744-5871
A member of THECSCGROUP

Circle No. 317 on Reader Service Card
We're tough on our Firestone EPDM single-ply roofing right from the start. With tough standards for the raw materials that go into the membrane...tough manufacturing controls to assure the quality of every roll before it leaves the plant...and one final very tough inspection by Firestone's field technical representatives to make sure the whole roof system was installed properly by a trained and licensed Firestone contractor.

Whether the membrane is adhered, ballasted, mechanically anchored or installed with our exclusive, non-penetrating FasTrac™ system...whether it's a new roof or retrofit...the contractor isn't done till we say it's right. That way you can be sure the roof is tough enough to withstand the worst that Mother Nature can dish out, year in and year out, with minimal maintenance. And tough enough to be backed by Firestone's comprehensive roof warranty.

The elusive objective of an adequate home for every American family needs to be redefined if we are to make any headway against our housing deficiencies.

In the most devastated section of New York's South Bronx area, ten ranch style houses have risen from the rubble, their flat front lawns bounded by picket fences of defensively massive design. Plans call for 80 more of these houses on adjoining plots. An article in New York magazine (June 18, p. 26) takes up the construction of these houses under the direction of Edward J. Logue, veteran urban renewer and former chief of both the Boston Redevelopment Authority and the New York State Urban Renewal Corporation. These houses, says New York writer Joe Klein, "are a surreal—almost hallucinogenic—sight. One is tempted to view it as a perverse Celtic practical joke: Reagan and Carter wanted to see the American Dream revived in the South Bronx, and Ed Logue gave it to them in spades, right down to the white picket fence."

Why is the sight of suburban-tract style houses rising from the urban wreckage so unsettling? The dream of a private, single-family house for every family, revived so powerfully by the federal home loan programs of the past half-century, is shared even by the poor minority families of our inner cities. Why not use land now vacant there to deliver this dream to them on their own turf?

For one thing, this outrageous little project mocks the dreams of its residents—who are paying dearly, subsidies notwithstanding—by giving them the form of the suburban house without the relative safety and neighborhood stability that it symbolizes; the houses look extremely vulnerable behind their decorative iron window grilles. On the other hand, they forfeit the traditional benefits of urban living by using land and infrastructure as wastefully by the federal home loan programs of the past half-century, is shared even by the poor minority families of our inner cities. Why not use land now vacant there to deliver this dream to them on their own turf?

For one thing, this outrageous little project mocks the dreams of its residents—who are paying dearly, subsidies notwithstanding—by giving them the form of the suburban house without the relative safety and neighborhood stability that it symbolizes; the houses look extremely vulnerable behind their decorative iron window grilles. On the other hand, they forfeit the traditional benefits of urban living by using land and infrastructure as wastefully as in the suburbs and by failing to promote any sense of community—or offer any shared facilities. For architects and planners, of course, the houses represent a rejection of the skills required for multifamily urban housing developments, and substitution of a product they have no part in.

What these houses do offer is that measure of self-determination that has come with the privately controlled dwelling throughout history. These residents can change the shutters to suit, choose plantings and objects for the front lawn, and display their vehicles in their own driveways. They also have backyards, for their barbecues and their kids only.

These qualities of self-determination and privacy are what we must try somehow to build into the multiple housing that we now need in large amounts, in both the cities and the suburbs. For there is no way we could meet our current needs with single-family housing, even if we wanted to.

And we should not even want to, because the families that shared that traditional American dream have changed so radically (see Dolores Hayden's essay, page 85). The stereotypical family of Mom, Dad, and the kids no longer dominates in an array of resident types that includes singles, singles sharing units, one-parent families, and the elderly—mostly single. Most of them do not need—and few of them can afford—the space and the facilities of the American dream home. They need shared day-care facilities, social halls, gyms, and laundries, and they might quite effectively share such facilities as kitchens and TVs as well. They need developments that will accommodate different stages of life without requiring relocation. They need nearby shopping and work opportunities, as well as convenient public transportation, to reduce dependence on private cars.

Unfortunately, none of this is part of the established American dream. All of us who care about the living environment and about social equity should be working for and promoting a new dream—of economically reasonable housing, with community benefits of greater value than the tenuous privacy and every-man-for-himself symbolism of the suburban tract. Many of our cities and older suburbs (even our military posts) contain well-planned multiple housing, with community spaces and facilities, which should be preserved and celebrated. Based on these, along with examples from abroad and current American efforts (pages 66–81), we should be generating new, more appropriate patterns for living in America.
If Your Facilities Management Problem is This Big, or Only Seems This Big...
Intergraph Has
The Solution.

Our computer graphics system can help you manage and control space in the most extensive facilities—even when departments, furniture and equipment are constantly changing.

Faster, more precisely, with less manpower than was possible before.

Let’s say you’ve just decided where to put Accounting. One of your space planners, singlehandedly, will be able to equip every data analyst, clerk and secretary with the right desk, chair and all other office equipment—right down to the potted plants and pencil holders.

Accounting’s entire move will be stored on the computer as a pictorial plan. The essential information linked to that picture will be on tap for inventory reports, space utilization analysis—or for the unexpected . . .

If the boss changes the whole plan tomorrow, your planner will be ready to move Accounting again. Up two flights, down four, or split between three levels. No matter where Accounting goes, the system will be able to report on the manufacturer for each workstation in the department, its dimensions, cost and color. Or give you a report on each occupant—by name, title, job classification and phone number. And more. Organized precisely the way you want it.

After Accounting is settled in its new location, you’ll have a complete set of “as built” drawings for use in managing your organization’s valuable assets—such as calculating depreciation and billing space by department.

The Intergraph system will give you the ability to keep pace with change as you manage space. By giving you and your space planners a comprehensive range of automated planning and management solutions, the Intergraph system will put you in control of the biggest facility management problems.

For detailed information, contact your nearest Intergraph regional office, or corporate headquarters:

Intergraph Corporation
One Madison Industrial Park
#110A
Huntsville, Alabama 35807-4201
(205) 772-2000
Views

Building automation decentralized
I read with interest "Intelligent Architecture" about building automation systems in your May 1984 issue and found it quite informative.

I would like to take this opportunity, however, to correct one misconception that appeared in this article. The author notes that "A central computer is still necessary in the newest energy management systems." This was true a short time ago, but is no longer so.

MCC Powers and other companies now manufacture energy management systems using direct digital control which do not require a central computer. Instead, the software and processing power is contained within the electronic cabinet that controls various HVAC functions.

Most systems for very large buildings still require a host computer. These new stand-alone models, however, are making sophisticated energy management affordable for owners of buildings under 100,000 sq ft—a market that at one time could not cost justify an EMS.

Jim Leman, Manager, Public Relations
MCC Powers
Northbrook, Ill.

Computer horizons
Congratulations! Your May, 1984 issue of Progressive Architecture magazine focusing on computers in architecture is excellent.

It is my belief that computer aided design is the most exciting technological advancement in the history of the architectural design processes. The computer is rapidly redefining the architectural process and shortly will supplant the drafting table and tee square as the primary instrument of architects.

Possibly the most important notion to dispel is the idea that computerization confines or limits the creative process that is the essence of architecture. Architects experienced with CAD have found the opposite to be true; that CAD expands the architect's design vocabulary.

In the profession of architecture computers are expanding creative horizons and simultaneously introducing heretofore unmatched precision and efficiency. And for the client, firms with CAD are finding these advantages translated into tighter budget and schedule control, reduced production time, and far more thorough analysis of design alterations. In short, more responsive and superior service.

R. Bruce Patty, FAIA
PBNA Architects Incorporated
Kansas City, Mo.

TVA headquarters credit extended
Credits for the Chattanooga headquarters building for the Tennessee Valley Authority (P/A, April 1984, p. 97) should have included Travis Price among the team of architects.

BOSTI study credit
BOSTI Director Michael Brill's study (P/A, May 1984, p. 164), Using Office Design to Increase Productivity, is distributed by Westinghouse Furniture Systems.

Photo credit
We regret the omission of credit for photos of the SunarHauserman office system ("The human factor," P/A, June 1984, pp. 94–99), all of which were the work of Paul Warchol.

Book credit extension
Oswald W. Grube was responsible for editorial review of commentaries and captions for the book SOM, reviewed in the May issue of P/A, as well as the German translation.

Design credit correction
Dining room furniture for Eric Moss's Petal House (P/A, June 1984, p. 103) was designed by Peter Shire for his own firm.
Unlike other doors, there are no finger joints used anywhere.

Ponderosa pine—Chosen for its excellent insulating properties and beauty.

Optional Low-E glass—Greatly reduces loss of heat or air conditioning.

Additional hinges—Greater durability and smoother operation.

Extra wide stiles—For greater strength and better looks.

the best insulating material that can be used for doors. Insulating glass is standard. And the new energy-saving Low-E glass is available as an option. It allows light to pass through it, but heat is reflected. So heating and cooling costs are significantly reduced.

OPTIONS, OPTIONS, AND MORE OPTIONS.

In addition to the option of Low-E glass, you can order your Marvin Terrace Door with true divided lites for a look of authenticity in renovated older homes or in certain styles of new homes. And you can add a storm panel for energy efficiency.

For an efficient modern look, you may want to choose solar bronze glazing.

And a Cathedral style is available for a very distinctive look in both new and old architecture.

Unlike some other doors, you also have a choice of hardware. The Marvin Terrace Door is designed with a 2¾ inch backset that will accommodate most any style of lock. You can even order the door unbored. So you can use any lockset you want to match the rest of the hardware in your home. And since our screen or optional combination storm/screen is placed a reasonable distance from the door itself, the handle doesn’t have to be of the small “knuckle-busting” variety.

As for sizes, nobody offers you more to choose from. Our door is available in both 6’8” and 8’ heights and a surprising variety of widths.

For more information, send us the coupon, or call 1-800-346-5128 toll-free. In Minnesota, call 1-800-552-1167.

Send to: Marvin Doors
Warroad, MN 56763

Name
Company
Address
City
State
Zip

W O O D  H A S  N E V E R  L O O K E D  B E T T E R.
Who was President when this Bradley Washfountain was inaugurated?

Bradley’s reputation for long-lasting, hard-working plumbing fixtures goes back quite a ways. So if you guessed Grover Cleveland, you’ve got the right idea — you just overshot the mark a bit. Calvin Coolidge had been in the White House barely a year when this appropriately “strong but silent” Washfountain was installed in the Milwaukee County Transit System’s second story locker room in 1924. Many new hands have come and gone, but the Washfountain’s stayed put. In fact, it’s still cleaning up today.

Over the years, Bradley hasn’t been resting on the laurels of our original design. We’ve kept making the Washfountain more efficient and convenient. To cite just a few examples: sectional foot and hand controls, water-saving spray heads, simplified plumbing and easier access, stainless steel and Bradglas bowls, and several generations of soap dispensers (the one above is F.D.R.-vintage).

All across America, tens of thousands of Bradley Washfountains — from the Coolidge to the Reagan era — are still filling out their long and successful terms.

If you could see “old faithful” working in Milwaukee, we think you’d form the same opinion its owners have. Today the Milwaukee County Transit System’s facilities include many Washfountains of less seniority — but with the same proud tradition of rugged performance.

For more information on Bradley Washfountains or our entire line of plumbing fixtures and washroom accessories, please contact your Bradley representative. Or write: Bradley Corporation, 9101 Fountain Blvd., Menomonee Falls, WI 53051, 1414 251-6000.

Bradley Corporation
We get the job done better.

Circle No. 513 on Reader Service Card
Progressive Architecture announces its 32nd annual P/A Awards program. The purpose of this competition is to recognize and encourage outstanding work in Architecture and related environmental design fields before it is executed. Submissions are invited in the three general categories of architectural design, urban design and planning, and applied architectural research. Designations of first award, award, and citation may be made by the invited jury, based on overall excellence and advances in the art.

JURY FOR THE 32ND P/A AWARDS

Architectural design: Kenneth Frampton, architect, architectural historian, New York; Professor of Architecture, Columbia University; Eric Owen Moss, Principal, Eric Owen Moss Architect, Santa Monica, Calif.; Professor of Architecture, SCI-ARC, Santa Monica; William Pedersen, Executive Vice President and Partner in charge of Design, Kohn Pedersen Fox & Associates, Architects, New York; Elizabeth Plater-Zyberk, Principal of Andres Duany and Elizabeth Plater-Zyberk, Architects, Coconut Grove, Fla.: Associate Professor, University of Miami, Coral Gables.


Research: Susan Weidemann, Environmental Psychologist; Associate Professor, University of Illinois, Urbana/Champaign; Steven Winter, Founder and President, Steven Winter Associates, Inc., Architects, New York.

Judging will take place during October 1984. Winners will be notified, confidentially, before October 31. Public announcement of winners will be made at a ceremony in New York on January 25, 1985, and winning entries will be featured in the January 1985 P/A. Clients, as well as professionals responsible, will be recognized. P/A will arrange for coverage of winning entries in national and local media.

Turn page for rules and entry forms.

DEADLINE FOR SUBMISSIONS: SEPTEMBER 17, 1984
**Entry form: 32nd P/A Awards Program**

Please fill out all parts and submit, intact, with each entry (see paragraph 13 of instructions). Copies of this form may be used.

### Awards Editor/Progressive Architecture

600 Summer Street, P.O. Box 1561, Stamford, CT 06901

Your submission has been received and assigned number:

### Entrant:

Address:

Credit(s) for publication (attach additional sheet if necessary):

### Entrant phone number:

Project:

Location:

Client:

Client phone number:

Category:

**Eligibility**

1. Architects and other environmental design professionals practicing in the U.S. or Canada may enter one or more submissions. Proposals may be for any location, but work must have been directed and substantially executed in U.S. and/or Canadian offices.

2. All entries must have been commissioned, for compensation, by clients with the authority and intention to carry out the proposal submitted. (For special provision in Research category only, see Item 6.)

3. Prior publication does not affect eligibility.

4. Architectural design entries may include only buildings and complexes, new or remodeled, scheduled to be in any phase of construction in 1985. Indicate schedule on synopsis page (Item 12).

5. Urban design and planning entries must have been accepted by the client who intends to base actions on them in 1985. Explain implementation plans on synopsis page (Item 12).

6. Research entries may include only reports accepted by the client for implementation in 1985 or research studies undertaken by entrant with intention to publish or market results. Explain basis of eligibility on synopsis page (Item 12).

7. The jury's decision to preclude any submission will be contingent on verification by P/A that it meets all eligibility requirements. For this purpose, clients of all entries selected for recognition will be contacted by P/A.

### Publication agreement

8. If the submission should win, the entrant agrees to make available further graphic material as needed by P/A.

9. In the case of architectural design entries, P/A must be granted the first opportunity among architectural magazines for feature publication of any winning project upon completion.

### Submission requirements

10. Entries must consist of legibly reproduced graphic material and text adequate to explain proposal, firmly bound in binders no larger than 17” in either dimension (9” x 11” preferred). No fold-out sheets; avoid fragile spiral or ring bindings.

11. No models, slides, films or videotapes will be accepted. Original drawings are not required, and P/A will accept no liability for them.

12. Each submission must include a one-page synopsis, in English, on the first page inside the binder, identifying the project and location, clarifying eligibility (see Items 4, 5, or 6), and summarizing principal features that merit recognition in this program.

13. Each submission must be accompanied by a signed entry form, to be found on this page. Reproductions of this form are acceptable. All four sections of the form must be filled out legibly. Insert entire form, intact, into unsealed envelope attached inside back cover of submission.

14. For purposes of jury procedure only, please identify each entry as one of the following: Education, Houses (Single-family), Housing (Multiple-unit), Commercial, Industrial, Governmental, Cultural, Recreational, Religious, Health, Planning and/or Urban Design, Applied Research. Mixed-use entries should be classified by the larger function. If unable to classify, enter Miscellaneous.

15. Entry fee of $60 must accompany each submission, inserted into unsealed envelope containing entry form (see above). Make check or money order (no cash, please) payable to Progressive Architecture.

16. To maintain anonymity, no names of entrants or collaborating parties may appear on any part of submission, except on entry forms. Credits may be concealed by any simple means. Do not conceal identity and location of projects.

17. P/A intends to return entries intact, but can assume no liability for loss or damage.

18. Deadline for sending entries is September 17, 1984. Any prompt method of delivery is acceptable. Entries must show postmark or other evidence of being en route by mid-month, September 17. Hand-delivered entries must be received at street address shown here, 6th floor reception desk, by 5 p.m., September 17.

### Address entries to:

Awards Editor

Progressive Architecture

600 Summer Street

P.O. Box 1561

Stamford, CT 06904
It takes stainless steel guts to give you a warranty like ours.

You're looking at the inside of the new Russwin 7000 Series, the only heavy duty mortise lock that gives you the solid security and protection of a five-year limited warranty.

Designed to meet ANSI Grade I life-expectancy standards, this exceptionally durable and beautifully crafted lockset has no equal in architectural hardware.

All stress and security parts, including a 1" dead bolt and 3/4" latch bolt, are made from solid stainless steel to provide increased strength and security. The heavy gauge steel case is coated with a gold, mar-resistant finish and a special, anti-friction agent to resist corrosion and provide velvet-smooth action.

The Russwin 7000. You'll find it in The Russwin Specifier, a unique manual designed for professional specifying and ordering. Ask your Russwin Distributor or call for details. 1-203-225-7411. Russwin Division, Emhart Hardware Group, 225 Episcopal Road, Berlin, CT 06037. Circle No. 357
When you recommend carpet to your health care clients, give them more than just beautiful carpet. Give them this:

**A beautiful carpet system.**

One that's aesthetically pleasing and longer lasting than traditional broadloom carpeting. But is much more flexible.

And sanitary.

**BEAUTY THAT'S EASY TO PUT DOWN. AND TAKE UP.**

Interface Flooring Systems, Inc. produces a modular system of 18" square carpet tiles. And because it's specifically designed and manufactured for hospitals, it meets some pretty tough standards.

Like economics. Interface carpet tiles can be installed without closing a busy, revenue producing hospital ward.

Flexibility. Maintenance personnel can selectively remove spills simply by removing tiles for cleaning. (We also manufacture a special machine that cleans a tile in 8 seconds.)

And, of course, hospital carpet must be durable. That's why our carpet is fusion bonded and solution dyed. That makes it look better, longer. And enables us to back it with a 10 year guarantee against wear.

What's more, each Interface carpet tile features a fiberglass-reinforced, vinyl backing that makes it lie flat and snug. No glues or adhesives. Yet, there's no curling or buckling. Even under the constant stress of heavy, rolling traffic.
**P/A News report**

**Carlo Scarpa revisited**

Much activity whirls this year around the figure of Venetian architect Carlo Scarpa. Several volumes are soon to be published, one by Bruno Zevi; others have just seen the light, including a work by Maria Antonietta Crippa on Scarpa’s thought, drawings, and projects. A thorough monograph, sponsored by the Order of Architects and Engineers of Treviso, Vianello Libri Publisher, and entitled *Carlo Scarpa, The Project for Santa Caterina in Treviso*, was published on the occasion of the last Scarpa exhibition (May 26–July 14, 1984), held in the restored church that he transformed and enlarged into an auditorium, a museum, a library.

The present delayed recognition of the “professore,” as he was known, culminated in a comprehensive exhibition, which opened June 29 at the beautiful Galleries of Accademia. The curators of the show, sponsored by the Cultural Council of the City of Venice, are Francesco Dal Co and Giuseppe Mazzariol, with the cooperation of a committee that includes Scarpa’s son Tobia. Dal Co, professor of architecture at the University Institute of Architecture in Venice, and Mazzariol, director of the Institute of Artistic Disciplines, together with Manfredo Tafuri, are also the authors of *Carlo Scarpa*, a new 300-page book published by Electa Editrice. The book, which covers Scarpa’s entire career, is enriched by a series of historical and critical essays written by various international figures.

The Accademia exhibition, which will travel to the Brera Academy Milan in late fall 1984, with Ignazio Gardella in charge of the installation, is the result of a major effort concentrating first of all on the collection, rearrangement, and selection of 18,000 drawings. The main source for the drawings at the University Institute of Architecture in Venice, and Mazzariol, director of the Institute of Artistic Disciplines, together with Manfredo Tafuri, are also the authors of *Carlo Scarpa*, a new 300-page book published by Electa Editrice. The book, which covers Scarpa’s entire career, is enriched by a series of historical and critical essays written by various international figures.

Events in Venice, Paris, Liverpool, and Cambridge, Mass., are the subjects of this month’s News report, plus a Neocon wrap-up and a glance at the Four Seasons’ quarter-century.
St. Bartholomew's Church in New York lost a bid to raze its Bertram Goodhue-designed community house on Park Avenue and build a 59-story tower designed by Edward Durell Stone Associates in its place. The controversial scheme was rejected by the New York Landmarks Commission as inappropriate.

- Also rejected was Hardy Holzman Pfeiffer's piggyback scheme for the New York Historical Society. The commission praised its design but deflected the decision to build atop the landmark.
- Both institutions may now choose to revise and resubmit their proposals, prove that the ruling constitutes economic hardship, or challenge the ruling in state or federal court.

Alvar Aalto's 1959 design for an opera house in Essen, West Germany, will now be built, under the direction of Elissa Aalto and Aalto enthusiast Harald Deilmann, who plan only those changes necessary to meet contemporary codes and acoustical requirements. Completion: late 1987.

The World's Fair in New Orleans (P/A, May 1984, p. 19) is not yet the success expected. Attendance is far below the break-even 69,000 a day, and a group of contractors, including Fair architects Perez Associates, have reportedly sued for outstanding payments. Doomsayers are already crying another Knoxville . . .

A Center for the Study of the History and Theory of Interior Design is to be established at the University of Cincinnati.

- The history/theory center—first of its kind—and a Resource Testing Center are funded by a grant from the State of Ohio.

The Marriott Corporation is moving into retirement.

- The hotel and food service conglomerate plans to develop two or three retirement "hotels" with invited life-care facilities accommodating 300-400 guests.
- Marriott also plans a chain of moderately priced suburban motels running $35-65/night.

Nathaniel A. Owings, founding partner of Skidmore Owings & Merrill and in recent years vocal champion of the environment, died June 13 of cancer at the age of 81.

A dismantled Usonian house, long considered lost, has been found—and sold.

- The model home, designed for an [Pencil Points continued on page 32]

is the archive of Scarpa's son in Trevignano, but a considerable number also come from RIBA. The selection and organization of these sketches was an excruciating job. Scarpa seldom produced a complete drawing; each detail went through stages and modifications, so that every subject is documented in numerous sketches. Moreover, Scarpa never had models made of his projects. (The twelve models, realized by Igor Silic for the Venice exhibition, are to be considered an "interpretive effort." ) He liked to supervise construction personally, and often followed step by step the work of his bricklayers, metal workers, carpenters, and "marmorino" painters. He had a special relation with the men, who became, under his direction, unique craftsmen, and they reciprocated, working night and day when the "professore" desired, ignoring the strict rules of Italian unions.

The pearwood models, together with unknown drawings, are by themselves a main attraction, but the Accademia exhibit reserves more surprises for
Scarpa admirers, including 40 recently found vases blown in the Cappellin (later Venini) Murano furnaces and a number of oil paintings by young Carlo Scarpa.

The exhibition, designed by Mario Botta and Boris Podrecca, both former Scarpa students, is divided in three parts. The Accademia’s Chiesa della Carita is occupied by 400 drawings, hung horizontally by myriad silver metallic wires to form a series of rising waves. In the same space, sterling silver objects (realized by Cleto Munari), architectural models, and the Cappellin vases are displayed. A second scholastic section presents Scarpa’s works chronologically, and a third, located in a space restored by Scarpa where the Deposition from the Church by Bellini and Carpaccio is hung, displays Scarpa’s oil paintings, the earliest dating from 1927. The magnificent Querini-Stampalia Foundation library, restored by Scarpa in 1963, will show other works.

Many people worked hard to carry out this successful Scarpa “festival” but a few have been left out, including his dear wife Nini and his long-time friend Aldo Businaro, who assisted Scarpa to no avail after his accident in Japan. Who knows, the “professore,” a genius, a loner, an unpredictable man, might have preferred to join them, ignoring the party in Venice. [Donatella Smetana]

Liverpool’s flower festival

Liverpool’s International Garden Festival (through October 14) on the banks of the Mersey is Britain’s largest derelict land reclamation scheme ever and, say the publicity blurbs, the biggest national exhibition of any kind since the 1951 Festival of Britain. The festival was set up several years ago by the British government in the wake of a series of riots in Liverpool’s suburb Toxteth, which adjoins the festival site. A new government development corporation was established to administer reclamation and development for the festival months and beyond.

The vast 125-acre site, two years ago a riverside garbage dump, a set of silted-up docks and an oil storage farm, is now a sweeping, swooping, terraformed landscape with mini-mountains, lakes, ponds, garden enclosures, sculptures, tents, pavilions, and greenhouses—all nestled cozily in the lee of a new land-formed ridge ranging down the squally Mersey, and linked together by a mini-railway and lacework of wiggly paths.

It is all disappointingly predictable: the layout, landshaping, pathway system, little theme gardens (including a Beatles’ maze and full-size Yellow Submarine, which was actually floated across the Mersey from its fabricating shop), and “typical” national gardens, offer nothing new or noteworthy for the landscape design/theory buffs.

But there, in the middle of this excessively busy panorama, is the feature garden pavilion, a lineal descendant of those great international exposition centerpieces from the Crystal Pavilion of 1851 onwards. Designed by Arup Associates, who won the competition for the design, its long, double-skin, polycarbonate barrel vault terminates in aluminum-clad apses. Covering 7500 square meters, it is a big building, but, as its architects had hoped, it appears to fit comfortably into the landscape, its simple shape consonant with the relatively massive earthworks around.

Arup Associates produces some of the most elegantly well-mannered, immaculately detailed and thought out architecture in Britain, and this Festival Hall is no exception. The smooth profile of the aluminum cladding running true from crown to base (the slightly fan-shaped and curved sheets had to be specially formed), the understated simplicity of the three-pin arch trusses, and the unob-
Aesthetics of Progress

The design show "Aesthetics of Progress: Forms of the Future in American Design 1930s/1980s" (Hayden Gallery, MIT), which juxtaposes objects from the 1930s and the 1980s, has as its unusual curatorial objective the confrontation of two aesthetics of progress. Close observation, aided by Tod Williams' intelligent installation in a made-to-measure environment, reveals some of the underlying connections.

Curator Katy Kline compares the notions of 1930s streamlining with the "black box" aesthetic of the 1980s, contrasting in particular a "consensus in forward motion" on the one hand and the "dissolution of a convincing notion of the future" on the other. The parabolic curve of nature was used in the 1930s as the streamlined metaphor for the speed with which today was becoming tomorrow. Objects of the Depression years sometimes quite literally sprouted wings, as did an iron exhibited at MIT; others were stripped down to essentials. The 1980s "black box" motif, whether electric or electronic, applies equally to lap computers, telephones and turntables, electric guitars and desk lamps. Rather than express, it eliminates any specific reference to function and obscures identification of its inner workings or component parts.

The MIT installation has its own aesthetic of progress. Williams, who has sought to resolve the problems of the architectural environment for electronic processes in his Cooper Union Computer Science Center (P/A, Sept. 1983, p. 126), here chose the fundamental cruciform shape as a space-defining support that affirms the human scale. The cruciform space-divider, taking forms that offer pleasing counterpoints to the objects they carry.

The 1980s objects reveal a new impatience with the box and a revival of chubby, chug-along friendliness in objects as varied as hairdryers and vacuum cleaners. This return of the familiar knobs and handles of the mechanical object does not signify a turn-about in the vision of the future or the definition of progress. Is it, however, coincidental that these forms reemerge at the very time that the computer has become a household appliance sporting names like Apple and Junior and features like the Mouse? The exhibit stimulates reflection—and, one hopes, future exhibi-
Why isn't this wood burning?

Because it's a fire retardant material so special it's patented.

The U.S. Patent Office recognizes the uniqueness of Dricon® fire retardant treated wood. So does Underwriters Laboratories Inc. Dricon wood is the only low hygroscopic treated wood of its type with UL's FR-S designation for all species listed. You can specify Dricon treated lumber with complete confidence.

You can also specify it without misgivings about moisture-related problems...even where relative humidity could reach 95%. Tests show that Dricon treated wood is no more corrosive than untreated wood. Because of its low moisture-absorption property, stains and other finishes will not be harmed. And metal plates, hardware, pipes and conduits will not be corroded by contact with Dricon wood in trusses, joists, studs, beams and other concealed members.

Your client will appreciate its workability. Since it is wood, Dricon wood can be cut, drilled and otherwise worked as readily and inexpensively as wood, during construction or future remodeling. Dricon fire retardant treated wood exceeds the requirements of all four national model building codes and qualifies for UL Class I roof systems. Specify economical Dricon treated lumber and plywood — the patented fire retardant treated wood with an FR-S rating.

©1983 Koppers Company, Inc.
tions of this intelligence in design philosophy and forms. [Hélène Lipstadt]

Hélène Lipstadt is an architectural writer in Cambridge, Mass.

The Four Seasons at 25

This month, the Four Seasons celebrates its 25th birthday. The restaurant, which occupies the ground floor of Mies van der Rohe's Seagram Building at Park Avenue and 52nd Street, was designed by Philip Johnson in 1958; the embodiment of International Style elegance, it seems only to improve with age. Its grand, expansive Pool Room and clubby, wood-paneled Bar Room continue to attract a faithful stream of New York's elite, not least of whom is the architect himself, a regular lunchtime patron. In honor of this silver anniversary, Tom Margittai and Paul Kovi, who have owned the Four Seasons since 1973, commissioned artist James Rosenquist to produce a mural that will hang on the "upper deck" of the Pool Room. The 24-foot-long mural features glamorous women, flowers, and fish. If it sounds Pop, it is. But you unreconstructed and newly converted Modernists, not to worry. Mecca is better than ever. [PV]

Parisian public works

"Construire la Culture" (To Build Culture), an exhibition held at the Institut Français d'Architecture this spring, marks the first stock-taking of the projects sponsored by the French Ministry of Culture since 1981. From the controversial project for the Grand Louvre, which will plant I.M. Pei's crystal pyramid on Paris's monumental "grand axis," to a series of provincial lending libraries, the fifty-odd projects share a program of public access to culture. The Louvre, for instance, is to be reorganized, not by rehanging works in its galleries, but by the superimposition of a rationalized circulation system and the addition of underground auditoriums, sales counters, restaurants, and library pivoting around the reflective pyramidal entrance pavilion in the Tuileries.

Advanced precision lighting is now within your reach.

Precise™ Lamps from General Electric.

The display designed with distinctive appeal. The ambiance you want for a special interior. Now, bring those effects to life with an accurate and brilliant new light. The light of GE Precise lamps.

A new level of aesthetic control.

Accentuate the qualities of a single object—or an entire setting. Precise lamps offer a range of precisely defined beams of light, and direct them only where you want crisp, high-contrast light and excellent color rendition.

A cool, energy-efficient light.

Precise lamps bring energy efficiency through low voltage operation and enhanced lamp life. Precise lamps are also designed to project very little heat to let you highlight fine materials and heat-sensitive merchandise.

GE Precise™ Lamps. Precision brought to light.

The full Precise MR-16 lamp line and an exciting array of track and recessed lighting concepts are now available from your GE lighting distributor.

For your copy of the Precise Lamp Designer’s Guide, call us toll free 800-321-7170.

WE BRING GOOD THINGS TO LIFE.

Circle No. 332 on Reader Service Card
The gardens are to be restored to their original parterres à la française, culminating in a terrace that reproduces the ground plan of the demolished Tuileries palace. Simultaneously, the upper stories of the Pavillon de Marsan are being rebuilt by architect Daniel Kahane to house the new Musée National des Arts de la Mode.

Aside from the grand projects—the Bastille opera house (P/A, March 1984, p. 20) La Défense (P/A, July 1983, p. 21), and the Parc de la Villette (P/A, May 1983, p. 26)—that have remained in the forefront of public attention, the Ministry has initiated over the last three years a host of smaller projects, the coherence of which emerges for the first time in this exhibition. Ranging from a building for the National Archives in Paris, which will centralize its reception of researchers and the public, to the Théâtre de l'Est Parisien, which will give a prestigious, government-sponsored house to a troupe whose origins are populist, many of these smaller projects have opened the central perspective of the Mediterranean climate onto the developing symbol of cultural modernism.

Especially for Single-Ply Roofing

Hickman's EXTRUDED ECONOSNAP

The Roof Edge System provides a permanent, waterproof, "no-slip" grip on the roofing memb- er's edges. And only Hickman offers an extruded, heavier-gauge aluminum fascia. 2-piece system in 10' lengths (metric sizes, too). See us in Sweet's (7.3 Hi).

FM-90 approved

Call FREE...1-800-438-3897

Available in Canada US Patent 4,071,987

□ HICKMAN construction products

W. P. Hickman Company  □ 175 Sweeten Creek Road
PO. Box 15005 □ Asheville, N.C. 28813 □ (704) 274-4000

Circle No. 335 on Reader Service Card

Gas energy alternatives

The Gas Research Institute recently convened a group of prominent architects, engineers, developers and others in Chicago to consider new ways in which natural gas might be used to meet the needs of commercial buildings.

GRI analysts, clearly concerned that the energy choice for many buildings is increasingly electric, revealed an already considerable array of building-related research efforts underway, funded by federally set fees levied on all gas users. Especially notable are ongoing assessments of promising Japanese and European technologies for gas-supplied service hot water systems and large-scale cooking facilities. Participants called for flexible, low-cost internal gas distribution systems, and smaller and more efficient gas-fired heating, cooling, and modular cogeneration systems. [Thomas Vonier]

Sweet Sixteen

There was something for everyone at NEOCON 16 last month. Contract furnishings manufacturers reported brisk traffic through their showrooms in Chicago's Merchandise Mart, and those who braved the throngs were rewarded with an encouraging assortment of new products. Predictably, office automation was Topic A, with CAD/CAM demonstrations packing them in at various showrooms. SunarHauserman's Different system and Knoll's expanded Hannah Desk system offered two bright solutions to computer-age office problems. Herman Miller's Equa chair line, designed by Bill Stumpf and Don Chadwick, and Donore's Barto chair by Richard Schultz were notable among office seating. Harvey Probber introduced the snappy Soley folding chair, designed for Kusch & Co. by Valdimar Hardarson, and at Metropolitan's elegantly redesigned showroom, Brian Kane's award-winning Rubber Chair was joined by the new Rubber Table. Color was an Issue this year, with Rudd International and Brickel Associates showing seating upholstered in vibrant red, yellow, and blue-green, which made the ubiquitous grayed pastels look positively anemic by comparison.
Ask a roomful of architects about rubber studded flooring, and you'd better be prepared to take some abuse.

A lot of architects have strong feelings about rubber studded flooring. And who can blame them? They've been victimized by inferior products that failed to stand the test of time.

Endura rubber studded flooring is different, however. It does precisely what it says it does—it endures.

To make the point, we dared a group of skeptics to try and prove us wrong.

They tried and tried, but they barely scratched the surface.

They tortured Endura with razor blades and matte knives. But its high pigment content and built-in, "self-healing" waxes concealed their efforts.

They tried to dent and crack it. But Endura's extraordinary tensile strength and elasticity thwarted them again.

They poured sulfuric acid on it. Lysol and table salt. Hydrogen peroxide and soda pop. Twenty-four hours later, Endura showed no visual or physical changes. Damp mopping made it glow.

When it comes to rubber studded flooring, be specific.

Anaheim Stadium was.

When they wanted to reduce the frequency of injury due to slips and falls, they specified Endura—200,000 square feet of it. (And not a single fall has been reported since.)

You'll also find Endura in post offices, airport terminals, laser laboratories, retail stores, locker rooms, auto showrooms, and residential kitchens.

You see, more and more architects and builders have come to realize that, because Endura can take so much abuse, they don't have to.


It does what it says it does.
Tests prove Tyvek Housewrap cuts heat loss through walls by 33%.

- TYVEK® stops cold air infiltration—cuts heat loss through walls 33%. Independent tests prove it.** BOCA Report 79-34 confirms it.
- Keeps cold air out of wall cavity, protecting insulation R-value.
- Moisture permeable—no danger of in-wall condensation.
- Costs about $150 for average house.

*DuPont registered trademark.
**Independent laboratory tests using 2x4 frame wall with 3/2" R-11 insulation in 15 mph wind.

FREE FACTS
Call 1-800-44-Tyvek. Or send coupon to DuPont Company, Room G-39984, Wilmington, DE 19898.

Circle No. 322 on Reader Service Card

Architect-designed furniture also abounded, with the Venturi Collection at Knoll, tables and chairs by Steven Holl and David Estreich at Pace, and Voor­ sanger & Mill's Morgan Collection at Vladimir Kagan. Shaw-Walker's display of Saarinen family furnishings from Cranbrook offered a welcome respite from the style wars of the moment, and Hammond Beeby and Babka's Color­ core rendition of the loggia of a Greek villa was more than just wonderful; the architects even provided a pattern book with color and detailing how-to's. For those who preferred talking to walking, architects Burgee, Graves, Jahn, Klei­ hues, Larsen, Ott, Portzamparc, Take­ yama, and Venturi, among others, had plenty to say. [PV]

Kevin Lynch: 1918–1984

Kevin Andrew Lynch, a pioneer in the field of urban design, died suddenly at his home on Martha's Vineyard, on April 25. Born in Chicago in 1918, Lynch studied at Yale, RPI, Taliesin, and MIT, where he received his Bachelor of City Planning in 1947. Returning to MIT in 1949 to teach, he remained for 35 years, sharing his expanding view of urban design with thousands of students. As a student there in the 1950s, I learned first from Professor Lynch that planning could go beyond dry maps and statistics.

Fortunately, Kevin Lynch left us his ideas in several eminently clear books. The Image of the City (1960), the result of a study with Gyorgy Kepes on how people perceive urban environments, gave us the concept of imageability. It was followed by the basic text, Site Planning, written with Gary Hack, and The View From the Road, with John Myer and the late Donald Appleyard. The recent Theory of Good City Form summed up the body of his ideas.

Along the way, Lynch worked on numerous influential urban design studies, from the original concept for Boston's Government Center and waterfront to the Arts District plan for Dallas (P/A, April 1984, p. 127). From 1977 on, he worked in partnership with Stephen Carr, with whom he established Carr, Lynch Associates.

We have come to understand—if not to apply—what Lynch wrote in 1960 in The Image of the City: "It is clear that the form of a city or of a metropolis will not exhibit some gigantic, stratified order. It will be a complicated pattern, continuous and whole, yet intricate and mobile. It must be plastic to the perceptual habits of thousands of citizens, open-ended to change of function and meaning, receptive to the formation of new imagery. It must invite its viewers to explore the world." [JMD]
A grand hotel saves energy in great style. With Levolor Awnings.

Levolor Sun Tamer™ Awnings give this elegant New York hotel a neoclassic treatment of great warmth and charm. Happily, they also reduce solar heat gain. Used systematically, they can often reduce the size and cost of air conditioning equipment.

Levolor Awnings open and retract automatically, their motors activated by sun and wind sensors. The durable acrylic fabric is colorfast and mildew-resistant, available in a broad spectrum of solids and stripes.

And our five-year warranty reflects the state-of-the-art quality you expect from Levolor. For more information, call or write:
Architectural Resource Group,
Levolor Lorentzen, Inc., 1280 Wall Street West, Lyndhurst, NJ 07071.
Why do most architects specify Cookson rolling doors?

Quality features such as SAFETY CONTROLS

Like the governor on Cookson rolling counter fire doors,* For greater safety during automatic closing, the Cookson governor regulates the downward speed of the curtain and controls the closing impact on the sill. Labeled by approved testing laboratories, Cookson rolling counter fire doors are ideal anywhere fire safety is a concern.

*Standard on sizes 8'1" x 4' 5" or larger. Available on smaller doors at minimal additional cost.

And the Cookson Firefly® Time Delay Release Device. An electromechanical fail-safe device that connects to a building’s smoke detector or fire alarm system. This patented Cookson exclusive prevents false closings during momentary blackouts or fluctuations in electrical power.

At The Cookson Company quality is of prime importance. Cookson’s complete line of rolling doors along with rolling grilles, rolling fire doors and counter doors represent the state of the art in design, engineering and manufacturing. With factories on the East Coast and West Coast, Cookson is the preferred name in the rolling door industry.

Write for free catalog.

The Cookson Company
700 Pennsylvania Ave / San Francisco, CA 94107 / Phone (415) 626-4422
800 Tulip Drive / Gastonia, NC 28052 / Phone (704) 866-9146

exhibition in 1953 by Frank Lloyd Wright for the Guggenheim Museum site, had been stored in a basement for 30 years.

- Tom Monaghan, owner of the Detroit Tigers and a self-styled architecture buff who also owns Wright’s Snowflake house in Plymouth, Mich., bid $117,500 for the pieces in the fund-raising auction for New York’s PBS station.

English architects are in a tizzy over anti-Modern remarks made by Prince Charles at a banquet honoring RIBA Gold Medalist Charles Correa.
- Charles (the Prince, not the architect) saved his sharpest criticism for a 1969 Mies van der Rohe tower, which developer Peter Palumbo now proposes to build (P/A, Dec. 1983, p. 42), and for a high-tech extension to the National Gallery designed by Ahrends Burton & Koralek.

The RIBA’s 150th birthday, celebrated at that same banquet, triggered a full-scale Festival of Architecture in Britain; now Scotland plans a parallel bash. The survey “Scotstyle” will tour the country accompanied by regional shows, publications, tours, and assorted social events.
- For schedules, contact RIAS, 15 Rutland Sq., Edinburgh EH1 2BE.

Ralph Lerner and Richard Reid have won a major competition for middle-income housing sponsored by the London Docklands Development Corporation.
- Their scheme for 250 housing units to be built by British developer Lovell Farrow will occupy a seven-acre site on the South Bank just down from the Tower Bridge.

A/E eye has died. The weekly news/gossip roundup for architects and engineers, which debuted in early 1984, ceased publication last month.

Architectural research in the areas of energy, lifesafety, building redesign, specialized facilities, and environmental trends will be the subject of a major conference sponsored by the AIA with Otis Elevator, March 1985 in Los Angeles.
- Abstracts and exhibit proposals must be submitted by July 23.

Parsons School of Design first annual Environmental Design Award went to George S. Kaufman, Developer of Astoria Studios in Queens, for bringing film business back to New York.
DELTA® GETS TOUGH WITH CERAMIC AND STAINLESS STEEL.

Tough commercial jobs require tough commercial faucets. That's why we created the Workforce. And why we equipped this line of washerless faucets with two extra-heavy-duty valve mechanisms.

Most of our two-handle Workforce faucets feature a ceramic stem and seat. Built to withstand rigorous use, this valve mechanism will outlast standard compression and washerless valves with rubber seats. And it's so incredibly hard, it can withstand most foreign particles found in the water without damage.

Single-handle models work with our exclusive stainless steel ball. It's so tough it easily stands up to foreign particles and resists corrosion. And that means it stays smoother longer, resulting in an extended seat-life.

Both valves offer lower life-cycle costs than conventional faucets. And to prove it, we're backing them with a 5-year limited warranty.*

The Workforce. Delta made them tough, to help make your job easier. See your Delta representative for all the details on how to put the Workforce to work for you.

*Slow Close, Delta Mix and Scald-Guard carry our standard two-year limited warranty.
Ultronic systems furniture gives you more to work with in planning and designing today's electronic office. Because Ultronic is fully compatible with every major brand of office computer and communications equipment. So now, whatever your clients' connections, you can offer a solution that helps boost office productivity, while saving yourself valuable design and specification time.

What's more, Ultronic furniture is compatible with ConCentrx—Steelcase seating designed especially for the electronic office. See Ultronic and ConCentrx at your Steelcase Regional Office or contact your Steelcase Representative. For worldwide product, service or sales information, write Steelcase Inc., Grand Rapids, MI 49501. Or call toll-free 1-800-447-4700.

Ultronics furniture from Steelcase
The solution for clients with powerful connections.
There's never been a better time to specify practical, reliable, cost-effective copper

Copper's current value underscores its proven cost-effectiveness for roofing. And a copper roof always starts off beautiful and gets better with time, acquiring its distinctive color and patina. On centuries-old buildings, copper roofing has demonstrated its durability, strength, and fire resistance. Today, machine-assisted installation techniques reduce costs dramatically. For outstanding performance and service life, use copper for flashings, fascias, gravel stops, gutters and downspouts. All together, copper's qualities plus its current value make it your best buy. For more information, write Copper Development Association Inc., P.O. Box 1840, Greenwich, CT 06836.

Copper—a bigger value than ever
Judging from this portfolio of 13 speculative office towers, Post-Modem is absolutely mainstream—decorated tops and arcaded bases the new clichés. Context, however, is conspicuously absent.


Today's buyers have discovered what the ancient Greeks, Egyptians, and Turks knew centuries ago that a steam bath is one of the most relaxing experiences a person can have. That's why they're turned on by homes that feature this therapeutic luxury.

Fortunately, Aqua Glass makes it easy for you to give buyers what they want.

**PRACTICAL DESIGN, THREE MODELS.** Aqua Steam™ by Aqua Glass is available in three popular models. Each is designed to provide the steam from the least amount of water and electricity. Built of sturdy stainless steel and without acrylic, each unit comes in three sizes and offers a range of features including a teakwood or contoured seat, hand rail, dome, remote wall timer, tempered glass door, and the finest steam unit you simply can't buy a better designed or better built unit.

**INSTALLATION EASE.** Aqua Steam is always easy to install as an old-fashioned shower. Its steam generator is about the size of a breadbox and can be installed anywhere— even in another room or upstairs. Plus Aqua Glass warrants every product we make for five years from the day you install it.

**EXCELLENT SERVICE.** With Aqua Glass you get quality products, excellent service, and the good feeling that comes from knowing we stand behind our distributors 100%.

**SURE WAY TO INCREASE SALES.** If you're looking for a way to give your new homes, condominiums, or apartments a competitive edge, you've found it. Our unique Aqua Steam uses an ancient custom to create a lot of new sales. So install Aqua Steam units in your projects and watch how fast they become hot sellers.

For more information, contact your nearest Aqua Glass distributor or write to Aqua Glass Corporation, PO Box 412, Industrial Park, Adamsville, TN 38310. In Canada: Aqua Glass Canada, Division of Aqua-Can, Ltd., 10 Wyman Road, Waterloo, Ontario N2V 1K7.
Three roofing systems for success.

And a Signature Series guarantee against failure.
You won’t find better protection than Manville roofing systems.

**Only Manville offers all three.**

We protect buildings and their contents with three complete roofing systems that include the right insulations and roofing accessories.

- Built-up roofing systems that offer the best in long-term performance and reliability.
- Single-ply systems using synthetic rubber elastomeric sheeting with unique physical properties and advantages.
- Modified bitumen systems that solve special problems for unusual roofing applications.

**Only Manville offers a guaranteed guarantee.**

Our confidence in our systems is backed by our Signature Series Guarantees, which Manville signs with pride and which are being backed by our Manville Customer Assurance Trust Fund.

Unlike some newcomers to the business, we’ve been backing our roofs for 125 years.

We also have an unsurpassed history of standing behind every Manville roofing guarantee. And our new Signature Series is a breakthrough in guarantees.

They are clear and easy-to-read with no tricky fine print.

**Only Manville offers this much.**

No other company offers you the guarantees, the experience, the roofing and accessory systems and the dedication to continuing innovation that Manville does.

We think that, altogether, they add up to the best possible way to achieve success.

Contact Manville Product Information Center, Ken-Caryl Ranch, P.O. Box 5108, Denver, Colorado 80217, (303) 978-4900. For export, TELEX MANVL DVR 454404.
Wherever there is people traffic, you can recommend Natura® TOUGH-ONE with complete confidence. A unique Florida Tile process bonds glaze on glaze to form a ceramic tile surface so tough it registers 8.5 on the Mohs scale and the highest rating (Class IV) by the PEI method.

Toughness isn’t its only feature, either. Natura® TOUGH-ONE is ruggedly handsome, available in six natural colors with matching trim. It’s a great floor value, too, offering low initial cost and minimal maintenance. It’s impervious to common stains.

Visit your Florida Tile distributor’s showroom. See Natura® TOUGH-ONE, an excellent choice for high traffic areas in commercial or residential installations. For the name of your nearest Florida Tile distributor call our toll-free number.

1-800-352-8453

1-813-687-7171, Ext. 233
**Competitions**

Issuing what Professional Advisor Theodore Liebman called "a challenge to innovate the commonplace," the City of Columbus, Indiana, and the Irwin Sweeney Miller Foundation sponsored the Columbus Carscape Competition, supported in part by the National Endowment for the Arts, Design Arts.

The program for the 300-space parking lot, while site specific, elicited generic solutions that could be transferred to other climates and locales. The winning solution by Eric R. Kuhne & Associates landscapes the "empty lot," that urban eyesore, as a public plaza that can be used for markets, festivals, and even commencement exercises. Its canopy of pear trees is lighted by sconces built into the tree guards (no heavy lot lights here), and the actual surface is treated as a fabric or carpet design problem, patterned to indicate movement (arrows) and arrival (spaces).

The eight-member jury (including four nonvoting city representatives) headed by Hugh Hardy, awarded second prize to Odell Associates, Charlotte, N.C.; third prize to BA-BA ARC, N.Y.; and three honorable mentions to SWA Group, Boston; Hanno Weber & Associates, Chicago; and SWA Group, Sausalito, Calif.

The specificity of the program, detailed right down to the budget per space ($1500) and the phasing of construction (the first phase of 30–35 cars, to be built immediately, must stand on its own as a completed composition), and the clarity of the 27-page competition bulletin designed by Liebman Ellis Melting, N.Y., make the Carscape an exemplary competition. The commitment on the part of the city and the foundation to build the project, and to produce a publication
Competitions

sharing results with other cities, is all the more laudatory in light of such recent competitions as that for the New Orleans Museum of Art, which have not been carried through as conceived. Future competition sponsors would do well to observe the example of this city whose commitment to good design remains unabated. [DDB]

Copley Square, round two

Copley Square is America's most famous non-square. It is neither square in the geometric sense nor in the metaphorical sense of drawing Bostonians to a sociable center.

That condition, Bostonians insist, needs to be corrected. In the last year they said so, specifically, by staging a competition to redesign the 2.4-acre space. On May 2, the winning design, by Dean Abbott of Clarke &: Rapuano of New York, was chosen from 309 entries and awarded the $30,000 prize for the $4 million project.

Despite its scruffy state, Copley Square remains a symbol of the city's desire for a public architectural center. With two of the city's, and the nation's, most venerable buildings, Trinity Church by H.H. Richardson and the Boston Public Library by McKim, Mead & White, facing off on its east and west sides, plus the mix of a lively commercial strip, the restored Copley Plaza Hotel, the rhombic new Copley Place, the Old South Church, and the infamous John Hancock highrise, it is a formidable and conspicuous challenge.

Ironically, the same concerns led to a parallel competition less than two decades ago. Sasaki Associates' first-place 1960s-style sunken design, hard-topped from end to end, satisfied few. Copley Square will now get a design that softens its forbidding masonry surface. What distinguishes the otherwise ordinary Clarke & Rapuano plan from the two

TIN CEILINGS

-24 patterns
-10 cornice moulding styles
-Fast and easy installation
-Shipped anywhere
-Send $1.00 for brochure

AA-ABBINGDON AFFILIATES, INC.
Dept. PA 2149 Utica Ave.
Brooklyn, NY 11234 212/258-8333

NOW, GYP BOARD HEATING PANELS
from the biggest name in electric radiant heating.

AZTEC SunComfort
Electric radiant ceiling system

SunComfort 5/8" gypsum heating panels: the radiant heating system that is easy to install, completely concealed in a drywall ceiling, energy efficient and very comfortable. Installations across the country in condominiums, homes and offices have proven SunComfort's ability to provide totally maintenance free heat with attractive installation and operating costs. Five year limited warranty.

Immediate delivery.
U.L. Listed.

For more information call toll free 800-545-8306
(in New Mexico 1-884-1818) or write Aztech International, Ltd., Dept. PA, 2417 Aztec Rd., N.E., Albuquerque, N.M. 87107

Circle No. 308 on Reader Service Card

Progressive Architecture 7:84
Introducing Armstone™

Interior Surface Finishings

Tones and textures that whisper greatness.

Floor tiles and wall panels of cast stone for contract interiors. Eighteen colors. Polished or honed. ⅜" and ⅝" thicknesses available for a variety of applications—new work, remodeling and traditional stone-type installations. Made in America to exacting criteria. A classic understatement in affordable elegance.

ArmStar

An affiliate of Armstrong World Industries • Lone Star Industries • Shell Oil Company

For details on Armstone™, call or write Armstar • Dept. 107 • P.O. Box 820 • Lenoir City, TN 37771 • (615) 986-4040

Circle No. 306 on Reader Service Card
nearest finalists (Cooper, Eckstut Associates and a Harvard-based quartet of Krisan Osterby-Benson, Peter Schaudt, Michael R. Van Valkenburg and John Whiteman) is its blanket of greenery. Abbott aimed, he says, for “an abstraction of the New England village green.” Some 40 percent of the space is grassed over; more trees and a reworking of the old fountain ease the rest.

Much of the final design was foreordained. The Copley Square Centennial Committee, which with the Boston Redevelopment Authority and the National Endowment for the Arts financed the competition, looked to enliven the square. For the city that institutionalized “shooting the breezes” in the chat-and-chew Faneuil Hall Marketplace, revitalization means foodification. Pushcarts and a farmer’s market fill the active edges of the plan. The format also required that the three-foot depression that makes the present square a pit be restored to a flat plane.

For all the painstaking preliminaries, the Copley Square project comes packed with questions from execution (will city patrons come up with four million—their share, one for maintenance?) to excellence (will a flatter, grassier, plainer place pull people?).

Certainly, the spectacle of a barely adolescent project succumbing to the bulldozer should prompt some self-examination among design professionals. Only a bosque of linden trees, two promenades of honey locusts, and the plumbing from the old fountain will recall the dreams and designs of the mid-1960s competitors. The question that remains is whether their successors can shape a new identity and humanity for this long placeless place.

Jane Holtz Kay is architecture critic for the Christian Science Monitor and author of Lost Boston.

Butler building

Robert F. Bleck of Rice University and Carlos Santiago Figueroa of the University of Puerto Rico took first and second prizes, respectively, in the first annual Butler Architectural Design Competition for schools of architecture. The students and their schools will receive cash prizes totaling over $5000.

The program called for the design of a new town center at the edge of a river, based on the original program for the Lake Anne Village Center at Reston.

Virginia, using preengineered metal building systems and components. The winning Rice entry spanned a Texas irrigation canal and was praised by the jury for elevating the visual potential of metal building systems.

Jurors Adele Naude Santos, Joseph Esherick, and Frederic Schwartz also awarded honorable mentions to Steven Barduson (Arizona State University), Vincent Wiegman (Clemson), Channing Lan and Vassilios Valaes (IIT), John Hansen (Oklahoma State University), Barbara Grossman (University of Maryland), Shaikh Quddus (SUNY-Buffalo), and Michael Gelfand (University of Tennessee). Butler Manufacturing Company plans to sponsor the competition annually for U.S. and Canadian schools of architecture. [Thomas Vonier]
BE SURE OF A PROFESSIONAL ROOFING JOB...

Certificate of Merit
May it be known that

has been approved by u.s.intec/braî
to be a certified applicator of Braî modified asphalt roofing membrane systems.

This certificate is awarded only to experienced, carefully selected roofers who have been trained in the application of BRAI modified asphalt membrane.

GET A PROFESSIONAL ROOFER — AND braî®
THE ROOFING THAT COMES IN A ROLL.

braî® is the leading modified asphalt roofing preferred by professional roofers.

Only those roofers who have proved their reliability are eligible for U.S. Intec training and approval. By selecting one of these professionals, you assure yourself of the finest roof modern science and engineering can supply.

Get a BRAI roof — with up to 15 years' leakproof warranty. It's heat-welded to assure weathertight bonding on all surfaces — penetrations, flashings, and slopes up to and including vertical. And it's guaranteed not to separate or "alligator."

u.s. intec, inc.

1212 Brai Drive • P.O. Box 2845 • Port Arthur, TX 77643
• Phone (In Texas) 800-392-4216
• (Outside Texas) 800-231-4631 • Telex 779-320
Eastern Region: 106 Meister Ave. • P.O. Box 5236
North Branch, NJ 08876 • (201) 725-8317

Circle No. 365 on Reader Service Card
Home of the Stanford faculty. Warm, friendly and shingle-minded.

Perched on a hilltop on the Stanford campus is the latest award-winning example of how to "touch the earth" on your next multi-family housing job.

The architect: Fisher-Friedman Associates.
The developer: Stanford University for its faculty.
The appeal: Warm, natural, friendly, residential.
"Natural cedar shingle exteriors combined with earth color accents create a comfortable and appropriate residential environment within the university campus."

—Rodney Friedman

For our color brochure "27 New Commercial Ideas in Cedar (and a few old ones)," write Suite 275, 515-116th Ave. N.E., Bellevue, WA 98004. (In Canada: Suite 1500, 1055 West Hastings St., Vancouver, B.C. V6E 2H1.)

Circle No. 356 on Reader Service Card
At Pepperdine, Laminated Glass gets high marks for noise control.

The beautiful, all-glass skin of Pepperdine University Plaza was all that separated the university administrative offices from the roar of this busy LA freeway.

To meet STC requirements of 36-38 would have required ¾-inch monolithic glass. However, that thickness exceeded weight limitations of the building design.

So ¾-inch laminated glass, with a Saflex® interlayer by Monsanto, was proposed as a solution. Laminated glass achieved the STC requirements of 36-38 with half the thickness and weight.

The configuration for the all-glass building is detailed in the illustration:

And the Pepperdine University Plaza building went up quiet, beautiful...and not overweight.

If your building has a weighty sound control problem, write us for more information on laminated glass acoustical control. Monsanto Polymer Products Company, Dept. 804, 800 N. Lindbergh Blvd., St. Louis, Missouri 63167.

Saflex® is a registered trademark of Monsanto Company © Monsanto Company 1983

Circle No. 348 on Reader Service Card
When the room must capture a feeling of elegance, the yarn is Marquesa Lana by Amoco Fabrics. Marquesa Lana is available in contract upholstery fabrics and carpets of flawless luxury. The texture is rich. The color options are unlimited, from popular solids to sophisticated blends. And Marquesa Lana is strong — a waterproof, stain-resistant, color-fast yarn that preserves its handsome appearance throughout years of service. This is beauty that will endure — that's why we say, Marquesa Lana Has Style.

LOOK TO AMOCO
Exhibits

Through July 14
Cultural Connection and Modernity, architectural projects by Steven Holl. Facade Gallery, New York.

Through July 14

Through July 15
Great Drawings from the Royal Institute of British Architects Drawings Collection. The Octagon, Washington, D.C. Also, June 4–July 15, American Architecture: Innovation and Tradition, AIA Building.

Through July 29

Through July 31

Through August 3

Through August 11

Through August 12

Through August 19
Arquitectonica—models, plans, photographs, and drawings of completed buildings and future projects. Center for the Fine Arts, Miami.

Through August 31
Architectural Crafts. Fine Arts Center, Tempe, Ariz.

Through August 31
Architecture of the Modern Olympiad: 1896 to the Present. School of Architecture, University of Southern California, Los Angeles.

July 31
Entry deadline, Third Annual Designers Circle Awards Competition for hotel interior design. Contact Lodging Hospitality, 1111 Chester Ave., Cleveland, Ohio 44114 (216) 696-7000.

August 1
Entry deadline, 1984 Prestressed Concrete Institute Awards Program. Contact PCI, 201 N. Wells St., Chicago, Ill. 60606.

August 4

August 15

August 20–September 3

September 1

September 14
Entry deadline, 1984 Concrete Building Award. Contact Glenn Simon, Portland Cement Association, 5420 Old Orchard Road, Skokie, Ill. 60077.

September 15
Submission deadline, International Association of Lighting Designers’ Awards. Contact Ms. Marion Greene, IALD, 30 West 22nd St., 4th Flr., New York, N.Y. 10010 (212) 206-1281.

September 17
Postmark deadline, 32nd P/A Awards. See page 15 for information and entry form.

Conferences, seminars, workshops

July 21–28
Eighth World Conference on Earthquake Engineering, San Francisco. Contact EERI-SWCEE, 2620 Telegraph Ave., Berkeley, Calif. 94704.

July 23–27

August 4–7

August 5–10

August 6–8

August 19–22
Ceramic Tile Distributors of America 6th Annual Convention and International Ceramic Tile Exposition, Boston. Contact CTDA, 600 Talcott Road, Park Ridge, Ill. 60068.

August 26–28
It's specially coated to give 2 panes of glass more insulating power than 3.

Less is more. That’s the idea behind Andersen High-Performance Insulating Glass®. It’s a revolutionary new glazing that offers architects, builders and contractors what they need least and want most.

LESS CONFORMITY MORE TECHNOLOGY.

Except for the fact that it uses two panes, Andersen High-Performance Insulating Glass is little like double-pane insulating glass. In fact, it's less like any traditional glazing.

State-of-the-art glazing technology makes it so.

A microscopically thin metallic coating is applied to the airspace surface of the room-side pane. This coating is bonded to the glass, becoming a part of it. So there is nothing to install, operate or clean.

The coating is permanent, won't roll up, crack or wrinkle. It is between the panes, protected from the elements—outside and inside. And this coating is transparent.

LESS PANE MORE ENERGY EFFICIENCY.

Winter heat loss/summer heat gain occur by 3 methods: Conduction, convection and radiation.*

Up to now, glazings attempted to reduce heat loss/gain from a conduction/convection standpoint. By increasing the air space between the panes and/or adding more panes.

Andersen High-Performance Insulating Glass reduces heat loss/gain from a radiation standpoint.

It increases comfort and reduces heating and cooling costs by helping keep radiant heat in during the winter, out during the summer.

The special coating is the reason.

Introducing Andersen High-Performance Insulating Glass:

through and escape to the outdoors. By preventing the escape of most of the radiant heat, Andersen High-Performance Insulating Glass offers more insulating power than even triple-pane.

It's a fact. Andersen High-Performance Insulating Glass exceeds Andersen triple-pane U and R-values. When compared to Andersen* windows with triple-pane it improves their energy efficiency by as much as 14%.

(See comparison chart above.)

2 is more than 3.

Andersen windows with High-Performance Insulating Glass are also 42% more energy efficient than Andersen windows with uncoated double-pane insulating glass.

LESS REGIONAL MORE SEASONAL.

Andersen High-Performance Insulating Glass isn’t only a cold climate glazing. In southern climates it can help lower cooling costs because it greatly reduces the flow of outdoor radiant heat between the panes. (Outdoor radiant heat is produced when sunlight strikes asphalt driveways, brick patios, concrete sidewalks.)

All summer, Andersen High-Performance Insulating Glass offers a 42% increase in energy efficiency, compared to Andersen windows with uncoated double-pane.

Andersen High-Performance Insulating Glass works 24 hours a day, 365 days a year on all sides of the structure, in all parts of the United States.

And it meets the high quality, long lasting standards Andersen requires of all their products.

LESS WEIGHT MORE PROTECTION.

Andersen High-Performance Insulating Glass is one-third lighter in weight than triple-pane. It makes windows easier to handle and install. Its coating prevents 80% of ultraviolet rays from entering—reducing the chances of drapery, carpeting and upholstery fading and deterioration.

LESS TOASTING MORE TESTING.

At Andersen, celebrating a new product isn’t important. What is that it's the right product. And that is why we have spent years working with the foremost experts in glazing technology. Why we examined and discarded numerous glazings and application methods. And why, only after exhaustive research, testing, evaluating and re-testing, we chose the coated glass method for our new product.

We’re convinced that when all things are considered no other glazing delivers more to you and your customers than Andersen High-Performance Insulating Glass.

Andersen High-Performance Insulating Glass is available for Andersen Perma-Shield® casement, awning and double-hung windows, Perma-Shield gliding patio doors and Andersen roof windows.

Check Sweet's File 8.16/An or the Andersen Product Detail Catalog for specifics. And contact your Andersen distributor or dealer for local product availability and a High-Performance brochure. They're all conveniently listed in the Yellow Pages under Windows.

*Conduction is the transfer of heat through a solid medium—the glass. Convection is heat transfer by movement of air. Radiation is the transmission of energy by means of electromagnetic waves.

Circle No. 305 on Reader Service Card
workbench contract

Our basics philosophy.

Stock the classics for immediate delivery.

We're Workbench. And for almost 30 years we've been one of the country's leading retailers.

In that time we've been supplying major corporations and institutions with many of our best-sellers. Restaurant Associates has bought furniture from us. So has Lincoln Center. Harvard University. And the list could go on. And on.

For years people have been urging us to open a separate contract division. But we felt it had to be done right. We just did it right.

So now, when you're doing a basic job and you need fast delivery at a good price, call us.

We carry only quality products and we have a broad selection of bread and butter basics in stock for immediate delivery. Cesca chairs. The complete line of EMU indoor-outdoor seating. Butcher block tops and tables. Plus simple, sophisticated upholstery.

And we have an exclusive line of well designed, modestly priced office furniture, which is not displayed in our stores.

The new Workbench Contract Division. You'll find our basics philosophy basically better.

workbench contract
470 Park Avenue South, New York, N.Y. 10016
(212) 532-7900 ext. 229
MORE ENERGY-EFFICIENT
BY DESIGN

With natural gas you've got the power to make every size project more energy efficient. Because today, there's a whole new generation of super-efficient gas equipment to give you the options you need. Advanced, fuel-saving gas heating and cooling systems that keep operating costs down. And that can make whatever you're designing look even better.

Gas gives you more for your money.
Three new ways KYNAR 500® protects and beautifies.

KYNAR 500-based exterior metal coatings are the premier finishes for curtain walls, fascia, and many other architectural components in high rise buildings around the world.

Now KYNAR 500 is the principal ingredient in three exciting new architectural applications, providing:

- a new, thick, metallic coating in a wide range of colors and tones for aluminum extrusions and panels for monumental buildings.
- a coating that lends the beauty and elegance of traditional ceramic to pre-coated steel roofing tiles, which are up to ten times lighter than conventional tiles; and easier and cheaper to install.
- long surface life, in a variety of rich colors, for aluminum sidings in residential, institutional, and commercial applications.

KYNAR 500-based coatings combine rich color expression with a unique toughness that withstands weathering, pollution, and other forms of corrosion that can mar the appearance and shorten the life of lesser architectural coatings.

For a list of our paint licensees, and our full-color applications brochure, call toll-free 1-800-345-8112. In Pennsylvania call 1-800-662-244, or write Pennwalt Corporation, Plastics Department, Three Parkway, Philadelphia, PA 19102.
Can design leadership be managed?

As design has become a much higher priority among clients over the past decade, many architectural firms have begun to face the question of whether they can manage design leadership.

Historically, design has been considered a largely personal attribute by the architectural profession. With only a few exceptions, firms identify their design quality with the work of one or more individual designers—and the public and clients respond by focusing proportionate attention on the anointed stars. (There is reason to argue that as projects—and firms—get larger and more complex, a carefully managed design process involving the work of many may produce quality equal to or better than that of a single Michelangelo, but that thought is for another paper.) The reality of today's architectural profession is that firms everywhere are seeking to improve their design quality by finding or promoting individual designers who can make it happen.

As evidence of this trend, several consultants who do executive recruiting for architects report receiving in the past three years an exceptional number of assignments to recruit strong designers into established architectural firms. These jobs are being advertised at salaries ranging from $75,000 to $125,000, higher than designers have ever been offered before.

Clearly, many architectural firms are convinced that design is more marketable and has higher value than ever. Those who don't think their design is up to snuff are making an organized effort to improve it. For perhaps the first time in modern history the question before the profession is: Can design leadership be managed?

As search consultants and objective managers look at the field of candidates available to fulfill the desire for more marketable design quality, it appears that outstanding designers (as judged by their peers) come in two principal varieties: those who can truly lead their clients to credible results; and those who command (or demand) sufficient respect (awe) so the client will accept what the architect gives them.

There are a large number of designers applying for these positions who can submit portfolios of work that qualifies for judgment as marketable, but there is a lot of confusion between the types. The fundamental difference in the two varieties of topnotch designers is not in what they produce, but in how they achieve it. Yet when firms evaluate designers, they tend to look at portfolios and judge by whether they like the work. Very little attention is paid to how the work was achieved.

Those designers in the first category, who do work considered outstanding by their peers and who demonstrate the ability to lead clients successfully through the design process, are a breed apart. Very few of these architects are turning up in head-hunting searches, and the reason is simple: designers who can truly lead are almost all in practice on their own, or headed for it. Designers in this group are doing so well today that they have little interest in being hired to solve others' management problems.

The second category of top designers are those who are often noted for their strong egos and who ask clients to accept the designs they are given on the basis that the architect knows what is best. The problem is that the number of designers who can pull this off is very small. For every ego-based designer who has achieved legitimate "star" status, there...
are 20 more who are trying to function in the image of these masters and not making it. It is this egocentric group of architects that leads many clients to be wary of strong designers out of fear that they will produce projects that are more monuments to themselves than services to the client. As ego-based designers are recruited into firms to fill the need for more marketable design, the majority are failing to achieve the goal.

All of which leads to a fundamental question: How important is leadership in the ability to achieve quality design results? We do not know the answer, but it is time to ask it. It is time for the architectural profession to focus some attention on the leadership side of practice and see how that quality affects the ability of architects, and especially design architects, to achieve their goals.

In order to open a dialogue on the subject it is worth considering some provocative observations of behavioral scientists who have recently been active in the architectural profession. The first point they note is that architects have, until very recently, come from the lower risk taking profiles of human behavior. They prefer to be "discovered" rather than asserting their competence and risking failure. The other observation of the behaviorists is that architects as a class tend to have lower self-esteem than other professionals, such as lawyers or doctors. There is no ready explanation for this, but recently the attention of some observers has focused on how architects are educated.

The studio system of architectural schools has as its fundamental hallmark design by criticism. Behaviorists tell us that this system can have a permanent impact on the self-worth of those who go through it. Some students—probably the majority—are conditioned by the studio process to be criticized for almost everything they do, and in consequence they develop low confidence, nonassertive behaviors that keep them out of trouble. In later life, unfortunately, the desire to keep out of trouble also lets them be led by their clients, rather than vice versa. In general, those who are led by their clients produce good service but don't generally produce the best design work.

Another group of students learns to compensate by developing egos that are fundamentally intolerant of criticism. They survive by trying to assume control of every situation—not only in design but in every other aspect of firm management as well. This is a good way not to hear criticism, but the difference between arrogance and genuine self-confidence is enormous. While the latter is a very valuable ingredient of leadership, the former is not compatible with it at all.

Some further symptoms that excessive criticism may be counterproductive is shown by the situation in Great Britain. There, where architects perceive their general position in society even more poorly than in the U.S., criticism begun in schools is continued throughout practice. While journals publish regular criticism of completed works, and while the social value of this may be defended as a proper force to help shape the art of architecture, much of the criticism takes on such personally devastating overtones that there is little wonder for the low self-esteem.

All of this implies that the architectural profession may be able to increase its success in the marketplace if it pays attention not just to design per se but to leadership as well. There is a body of expertise available to train individuals in leadership skills. Some of this is in the form of package programs (e.g., Dale Carnegie) and much of the best is in the form of an emerging group of "power" and "assertiveness training" programs offered by behavioral scientists who are active in management development. It is too early to give definitive advice on the merit of these programs, but it is timely to ask whether architectural firms
We put the finishing touches on Frank Lloyd Wright's masterpiece.

Despite the concerned and diligent efforts of the Western Pennsylvania Conservancy, decades of intense weathering and constant exposure to water had taken a heavy toll on Frank Lloyd Wright's famous "Fallingwater". A five-year-old coat of paint was blistered and peeling, and much of the concrete was pitted and spalled.

Because of its artistic and historic value, restoration architects Curry, Martin and Highberger took the absolute strongest corrective and protective measures possible. They specified that Thoro System Products be used throughout.

After sandblasting, contractors Mariani and Richards brought the surface back to its original form with Thorite, a non-slumping, quick-setting patching material (mixed with Acryl 60 for enhanced bonding and curing).

Then the entire home was covered with Thoroseal. Thoroseal is harder and more wear-resistant than concrete, 100% waterproof, and bonds so tenaciously that it becomes an actual part of the wall. Permanently locking out moisture and dampness.

To match the original architects' color specification, a coat of ThoroSheen masonry paint was applied over the Thoroseal.

An ounce of prevention and a pound of cure. We're Thoro System Products, and when it comes to restoring or protecting an architect's designs in masonry and concrete, we've been doing it better and more often than anybody else for over 65 years.

For further information, write, detailing your specific needs.

*Thoroseal, Acryl 60, Thorite and ThoroSheen are registered Trademarks of Thoro-System Products. ©1979. Thoro System Products

Dept. PA 847, 7800 N.W. 38th Street, Miami, Florida 33166
A unit of Beatrice Chemical, Division of Beatrice Foods Co.

Circle No. 364 on Reader Service Card
will benefit by encouraging their key ar-
citects, especially designers, to seek
leadership training.

The question remains: How impor-
tant is leadership for producing excel-
lent design? For firms struggling to im-
prove their design reputations, and for
individual designers having trouble
maximizing their career potential, an ex-
periment in leadership training may be
worthwhile. For architectural educators,
it may be time to consider whether some
change in their approach to teaching de-
sign may produce a better generation of
future design leaders.

With clients demanding more excel-
lent design than ever before, designers
who can lead are in greater demand. It
is time for the profession to consider
how more leadership can be delivered.

[Weld Coxe]

Weld Coxe, Hon. AIA, is the foundinu
principal of The Coxe Group, Philadel-
phia, management consultants.

The architect as arbiter

The architect is charged with a signifi-
cant responsibility in disputes between
owner and contractor, particularly if
they relate to the execution or progress
of the work or the interpretation of the
Contract Documents. The "General

Conditions of the Contract for Con-
struction" issued by the American Insti-
tute of Architects expressly provides
that questions relating to the execution
or progress of the work or the interpre-
tation of the Contract Documents must
be submitted to the architect for initial
resolution. Other disputes between
owner and contractor arising under the
construction contract may proceed di-
rectly to arbitration for determination.
The line of demarcation between these
two types of claims or disputes is, how-
ever, often difficult to determine.

It has been held, for example, that a
claim by a contractor for delay damages
asserted after substantial completion of
a project need not be submitted to the
architect for determination under the
provisions of the AIA Construction
Contract Documents (see "It's The Law," P/A, Nov. 1983). The premise of
such ruling was that the architect plays
an arbiter's role only as the work is in
progress and in relation to the perfor-
ance of the contractor. Consequently, a
claim for damages resulting from delays
of the owner, asserted after substantial
completion of the project, falls outside
of the province of the architect. On the
other hand, courts may differ when the
facts before them (although to a degree
similar to the case referred to above)
vary in one or more significant aspects.
The recent case of Liebnowsky v. Con-
struct Associates, Inc., NYLJ Vol. 191, No. 68,
p. 7, illustrates this uncertainty.

In this case the owner had contracted
with a general contractor for the renova-
tion of a Manhattan townhouse for a
price of $221,600. During the progress
of the work, the contractor unilaterally
issued approximately 20 change orders,
which resulted in a claimed substantial
increase in the cost of construction. The
owner in turn complained that the con-
tractor had permitted certain hazardous
conditions to exist, including an unsafe
condition involving the placing of a stair-
case and permitting oil-soaked cloths
and thinners to be stored near a hot-
water heater. Complaint was further
made that the contractor had al-
lowed completed work to be left unpro-
tected, had employed persons without
requisite skills for the tasks assigned, had
failed to correct deficiencies, had per-
mitted the roof to leak, and had failed
to provide essential contract documenta-
tion. The owner, after receiving certifi-
cation from the architect that sufficient
cause existed, terminated the contract.

Some months after the termination,
the contractor demanded arbitration
against the owner, seeking over
$150,000 allegedly due under the
change orders that the contractor had
unilaterally issued. The owner took the
The GM Building in New York City has an exterior of beautiful Cherokee® Georgia Marble. Towering above Fifth Avenue, it presents an impressive landmark in a city of many skyscrapers.

Georgia Marble is famous for its large crystalline matrix that repels water and dirt, withstanding the pollution of a city environment. Select Georgia Marble when you want to make a lasting architectural expression.

Reference: Sweets Catalog 4.1/Gem.
position that the dispute involved the execution and progress of the work and that consequently the contractor was required to submit the dispute to the architect for determination as required by the “General Conditions.” A majority of the court ruled that, although the claim had been asserted before substantial completion of the project, the termination of the contract by the owner removed the dispute from the scope of the architect’s jurisdiction, since the architect’s authority was limited to the “operational phases of the construction.” It was the majority’s conclusion that the contractor’s claims for money due on the contract did not relate to the execution or progress of the work or to the interpretation of the Contract Documents, and thus there was no requirement that the dispute be submitted to the architect for resolution.

A minority of the court, however, came to the opposite conclusion, stating: “In our case the dispute centers upon ‘the operational phase of the construction’ and quite clearly relates to both ‘the execution or progress of the Work’ and ‘the interpretation of the Contract Documents.’ The claim here pertains to the propriety of change orders issued by the contractor during the course of construction, which petitioners claim had been improperly issued in violation of explicit requirements in the contract. To a large extent, petitioners challenge the sufficiency of the work performed by the contractor, contending that respondent’s performance was substandard and palpably improper, creating dangerous and hazardous conditions. Thus, the dispute relates to the contractor’s performance on the job, within the scope of Sec. 2.2.9, and clearly a different type of dispute than (a claim for) delay damages. In addition, the very nature of the dispute at issue here, involving the contractor’s compliance with the Contract Documents and the performance of construction in accordance with accepted safety practices, clearly involves matters ‘to which the architect might be expected to have a special competence.’”

The minority further pointed out that since the construction contract provided for certification by the architect to support termination of the contract and for determining the amount payable to the contractor, the architect must of necessity judge the quality of the contractor’s performance. In order to harmonize all provisions of the contract, it would follow that any dispute involving the contractor’s performance should be submitted to the architect for determination.

Given the opposite conclusions reached by the justices in the case discussed above, as well as the differences in court decisions on this subject, it would appear that clarification of the Construction Contract Documents issued by the American Institute of Architects would be desirable.

[Norman Coplan]

Norman Coplan, Hon. AIA, is a member of the law firm Bernstein, Weiss, Coplan, Weinstein & Lake, New York.

Correctional security.

Correctional institutions require state-of-the-art security equipment to monitor their facilities. Vindicator is proud that its Microplex® monitoring systems are repeatedly chosen to protect correctional facilities with the most demanding security requirements. Microplex integrated systems regularly monitor and control hundreds of alarms including intrusion, fire and CCTV.

Vindicator’s Microplex systems have set the standard for quality in the security industry. Microplex systems are being used at major military installations, hospitals, banks, refineries, museums and industries of all kinds, in a wide variety of applications—wherever people are serious about security.

We have Microplex systems to meet requirements of all sizes. Please call us and let us review your security needs.

1445 Oakland Road, San Jose, CA 95112
Phone: (408) 292-2223 TWX: 910-338-0021

© 1983 Vindicator Corporation

Circle No. 367 on Reader Service Card
Make optimum use of natural light, create a sense of open space, and enhance interior comfort with PC GlassBlock™ partitions, walls, and windows. They combine the efficiencies of opaque walls with the design opportunities of light-transmitting glass.

Beautiful, yet practical, facades are created with Pittsburgh Corning's SOLAR REFLECTIVE Glass Block. Buildings reflect and blend harmoniously with the environment. And the highly reflective, thermally bonded oxide surface coating reduces both solar heat gain and transmitted light. Available with either a bronze or gray appearance.

For more information, contact Pittsburgh Corning Corporation, Marketing Department AGB-4, 800 Presque Isle Drive, Pittsburgh, PA 15239, Tel: (412) 327-6100, In Canada: 5075 Yonge Street, Willowdale, Ontario M2N 6C6, Tel: (416) 222-8084.
Beauty and durability today...and tomorrow. Versatile redwood—there's a grade for every project. Send for our booklet, “Redwood Grades and Uses.”
Articles on the following pages explore the condition of subsidized housing in the United States today. Four newly completed projects show levels of quality that may never be matched because of policy changes. Two proposals take up the growing need to rehabilitate existing public housing. Ten essays by recognized experts assess the outlook for social housing. A related Technics feature (p. 103) deals with housing in the Third World.

Ironically, federal assistance for low- and moderate-income housing is being phased out just at a time when architects, sponsors, and local officials are finally demonstrating ways to make publicly assisted housing truly humane. The projects discussed on the following pages have convincingly overcome the stigma of drabbiness, repetition, and impersonality that continues to haunt government-assisted housing. The programming and design amenities they embody have since been ruled out by directives from Washington.

Ironically, too, the current cutoff of federal assistance for housing comes at a time when ever larger proportions of our population are finding it difficult to obtain adequate housing on the open market. Since 1975, average real family income has declined, while the costs of housing have risen sharply and construction has barely kept up with losses through demolition. In this situation, the Administration's favored strategy of giving housing vouchers to low-income families is likely only to send more money chasing after an essentially static supply of shelter.

A relatively new factor in the national housing situation is the need to rehabilitate large numbers of aging public housing units. The two housing rehab projects reviewed in this issue show the constructive possibilities here. It is legally possible, however, for much of this housing to be simply sold off to private interests with little or no provisions for needy tenants.

The broad political support for federally aided housing, which prevailed from the 1930s through the 1960s, began to break up in the 1970s, partly because such programs—along with general prosperity—had reduced the proportion of the population that needed such housing (and concurrently, its importance to construction lobbies). Now, conditions may be favorable for a reverse trend: serious problems in obtaining affordable housing, which reach well up into the middle class and particularly affect the elderly, may soon revive political support for federally assisted housing programs.

If federal support is not revived, the demand now developing is likely to be addressed in other ways—with state or local support or through devices that break through economic obstacles for private and nonprofit developers. Whatever happens, the design and policy ideas presented on the following pages will have a real applicability in years to come.

Writing about social housing in America today may involve a certain poignancy, but it is not an exercise in futility. It is an expression of hope.

[John Morris Dixon]
Living with the sun

It takes a cooperative client and a committed architect to wring architecture out of the Farmer's Home Administration. The Roosevelt Senior Citizen Housing Corporation and architects Kelbaugh & Lee both have what it takes, for they've created, in Roosevelt, N.J., solar housing for the elderly, reminiscent of an English country town, for $50 a square foot.

That facility with Federal funds is not out of character for the people of Roosevelt. In the midst of the Depression, the Federal government built their entire greenbelt town, with its architect-designed, concrete-block houses. When it came time for the town's senior citizens to choose an architect for their new housing, they once again went for the unconventional: a firm noted for passive solar design, Kelbaugh & Lee. The task Roosevelt's senior citizens set for the architects had its share of contradictions. The residents, for example, wanted to remain close to and visually a part of the town, but they wanted housing that looked completely different from the flat-roofed Modern they had lived with for so many years.

Doug Kelbaugh resolved those dilemmas with skill and a decided wit. The housing's aesthetic leans toward the English Arts and Crafts with its shingled walls, long gabled roofs, and lattice fencing and grilles—not an inappropriate choice in an American version of Ebenezer Howard's Garden Cities. Where the Arts and Crafts meets the solar, wit also
Lattice fences and gates mark the entrances to this 21-unit, two-acre complex. The north elevations have few windows, except for the community building's many stepped windows (opposite). The south elevations (left) are enlivened with bright yellow awnings shading the Trombe walls and outdoor terraces in summer. From the adjacent fields (above), the solar vent stacks and rotary ventilators have a playful quality. The passive solar features of the units (overleaf) include attached sun spaces, mass walls and floors, Trombe walls, a solar powered vent stack, and "Big Fin" preheater. The site has parallel rows of one- and two-bedroom units facing south, with service areas along the north elevations.

comes into play. The solar vent stacks sport a disguise as chimneys; the rotary ventilators spin like whirligigs, the sun spaces double as enclosed porches, and the shading devices serve as bright yellow awnings, while the Trombe walls mimic the picture windows so common in Roosevelt.

Inside, the apartment units seem almost too big for the residents' furnishings, a quality rarely found in any subsidized housing. It comes from the passive solar features: high ceilings, concrete floors, skylights, and sun spaces. Otherwise, the units have fairly conventional, if tightly organized plans, with kitchens, closets, bathrooms, and airlock entries along the north wall, and living rooms, bedrooms, and sun spaces along the south.

Laundry facilities, a community room, and studio apartment, stacked in a three-story community building, sit near the center of the complex. Elements such as the cross gable roof and the stepped windows leading to the top floor studio visually tie that building to the surrounding housing. On the south and east elevations, though, where brick walls increase the mass, the building is much less successful as a design and as a focus for the community.

The Roosevelt project embodies what Kelbaugh sees as the form most housing will take in the future. Housing will "become smaller, longer, heavier, denser, more regional (in its response to climate), and longer lived." Those attributes seem to accord with
Roosevelt Housing

Project: Roosevelt Senior Citizen Housing, Roosevelt, N.J.
Architects: Kelbaugh & Lee, Princeton, N.J. (Sang Lee, partner in charge; Doug Kelbaugh, Sang Lee, Tom Swartz, Ron Ellis, Leigh Olson, design team).
Client: Roosevelt Senior Citizen Housing Corporation (Leon Barth, president).

Site: two acres of gently sloping land.
Program: 21 units of elderly housing with community center.
Structural system: tilt-up, wood-frame construction.
Major materials: see p. 130.
Mechanical system: zoned electric baseboard heat, electric domestic hot water heaters with solar preheaters, solar chimney and wind turbine.

Site plan and floor plans of Roosevelt Housing

Various economic and demographic predictions. They do create formal difficulties, however, that Kelbaugh bravely explores but doesn’t entirely solve. For instance, while he breaks the monotony of orienting all buildings south by staggering the rows of housing and by varying the sequence of views experienced by the pedestrian, the lattice fences and gates do not adequately define the east-west edges of the common yards. The intention of creating an urban, pedestrian-oriented complex is thus diluted as the outdoor spaces visually spill into the adjacent fields. Also, the consistent treatment of elevations, with relatively blank north and wonderfully open south faces, seems to warrant a consistent entry orientation. But to minimize paths and encourage social interaction, Kelbaugh has some units entered from the north and some from the south, a situation that creates not variety so much as a formal confusion.

Such matters know no simple solution. Nor do those of achieving quality construction in publicly subsidized housing. Remarkable for what human amenities and solar features it offers on so small a budget, the project nevertheless suffers from shoddy workmanship. With Federal funding agencies seemingly blind to the long-term expenses their inadequate subsidies incur, one can only wonder if the Farmer’s Home Administration realizes that, at Roosevelt, it got far more than it paid for.

[Thomas Fisher]
A sign of the times

Van der Ryn, Calthorpe & Matthews

Planned to meet the goals of Sacramento's Capitol Area Plan developed during the tenure of Sim Van der Ryn as State Architect, this one-block mixed-use development is successful in responding to urban design and energy conservation considerations. But the social objectives envisioned by the architects were considerably modified when the original developer, McKeon, was bought out by a British developer, Barratt America.

Architect Peter Calthorpe, in partnership with Sim Van der Ryn and Scott Matthews, has devoted a large share of his practice to planning mixed-use projects that reflect contemporary needs for conserving energy and promoting what is usually regarded as an urban way of life. Somerset Parkside was designed to express the interdependency and variety of vital urban neighborhoods as well as to serve those for whom new housing is generally not affordable. To meet the latter goal, McKeon applied for a state subsidy under Assembly Bill 333, which funds both cooperative and rental housing. Originally, Somerset was planned as a cooperative with the subsidized units, one-third of the total 107, scattered through the site. Upon acquiring the project just prior to construction, Barratt scuttled the cooperative in favor of a mix of condominiums and subsidized rental housing. The subsidized units were then segregated to the south side.
The housing responds to its context in both its form and function. The side facing a street of detached houses (right top) takes the form of large houses with gabled roofs and projecting stairs and porches. The interior of the project (right middle) has smaller townhouses facing a mews, recalling the midblock alleys common in Sacramento. A bridge forms the ceremonial entry into the complex from an adjacent park. Facing the park (right bottom) are restaurants and shops. The side facing taller office buildings (preceding page) has apartments that are taller and more urban in character. As the site plan (opposite) indicates, most of the housing is oriented in an east-west direction to take advantage of passive solar gain. Parking is kept to the perimeter of the site or placed under­neath buildings. This frees the interior of the complex for community gardens, children’s play areas, and shaded areas for sitting. The retail space along the western edge of the site and in the northeast corner enlivens the streetscape and ties the project into the life of the city. Many of the apartments are “mingle” units with separate bedroom suites sharing common kitchens, living, and dining rooms.

and their construction budget cut to the bare bones. A child-care center proposed for the interior of the block, near the townhouses designed for families, was eliminated. In sum, the project is now largely market-oriented—a sign of the times.

Integration of energy conservation features and urban design elements with the form of the buildings is particularly successful. Though there are 43 units to the acre, they are disposed in three different building forms, which not only reflect those typical of Sacramento, but are also staggered in height to permit winter sun to each unit. On the north side, the three-and-a-half-story apartment buildings relate to the state office buildings on P Street. The two-story townhouse mews in the middle of the block reflects the smaller scale buildings of midblock alleys in the area. Finally, the detached apartment structures on the project’s south side are compatible with the two-story detached houses across the street.

To achieve the high density and reduce the per-dwelling costs for site preparation, utility hookup, landscaping, and parking, the units are smaller than HUD’s minimum property standard. One-bedroom units start at 584 square feet, two-bedroom at 684 square feet, and three-bedroom at 1116 square feet. The innovative unit is the “mingle,” which offers buyers the possibility of coownership as a way of entering the housing market at less cost. The plan has two
**Project:** Somerset Parkside, Sacramento, Calif.

**Architects:** Van der Ryn, Calthorpe, & Matthews (Peter Calthorpe, project designer; Andrea Ponsi, Claudia Cleaver, Tom Pinkowski, design team).

**Client:** Capital Area Development Authority.

**Site:** flat, city block, 2.5 acres square, with no existing buildings.

**Program:** 107 units with 26 low-income subsidized 2- and 3-bedroom units and condominium townhouses and apartments. Retail space facing park.

**Structural system:** wood frame, spread footings, gang nail truss floor joists.

**Major materials:** stucco exterior finish, canvas shades, wood lattice rails, one-inch plaster interior walls.

**Mechanical system:** heat pump heating, air conditioning, and hot water heaters.

**Consultants:** C.H.N.M.B., landscape; Lloyd Gossen & Company, structural; Peters Engineering, mechanical and electrical; Berkeley Solar Group, energy calculations.

**General contractor:** Barrett Urban Housing.

**Costs:** $1,145,988 including site work, landscaping, and interior finishes; $54.40 per sq ft.

**Photography:** Henry Bowles.

---

**Overall plan includes a variety of housing forms, types and scale, with big houses facing residential street and apartments facing offices.**

**Townhouse family housing is clustered at interior. Children's play area and proposed day care center are in the same location.**

**Shops face the park side, a restaurant occupies a corner, and front doors face the streets to create and enhance pedestrian activity.**

---

master-bedroom suites with private baths and shared living-dining and kitchen spaces, along with a private, south-facing balcony.

Even with the relatively high density, 51 percent of the site is still open space. A variety of landscaped areas designed for child and adult use are tied together by allees of trees, which meet in the center, defining an open space with a water element. Sheltered from street noise and traffic, the block's interior offers the kind of house-in-garden ambience much sought after by families with children.

By contrast, the nonfamily dwelling units are entered from the street where, on the west side, there is 4600 square feet of commercial space now occupied by eateries and a laundromat. All units have private outdoor spaces. In accordance with the American image of a home for both cars and people, each unit has a numbered parking space. Surface parking lots are shaded by active solar hot water collectors.

Consultant Clare Cooper-Marcus's research on housing preferences shows that people want a homelike image, privacy, community identity, and ease of child-rearing. No surprise. These are the traditional goals of American housing. But to change neighborhood character from suburban to urban, new architectural prototypes are needed. This is Somerset's main contribution. [Sally Woodbridge]
The facade and plan (right) reveal the extent to which the architects tried to vary the building's image and configuration, all with a minimum of means such as different color stucco, simple rain shelters, and balconies. The same is true of the interior public spaces. The width of corridors is varied and the lobby is broken into smaller alcoves to reduce the scale and sense of monotony. The completed building (opposite) stands next to houses, giving further reason for stepping down the darker color stucco; it reduces the apparent size of the building. While well-intended, the detached waiting pavilion in front of the building doesn't keep people out of the rain as they exit.

While subsidized housing projects for the elderly have multiplied in recent times (HUD's Section 202/8 program is one of the few pre-1980 programs that remain intact), few of them rise above the nondescript. We have almost come to accept this lack of architectural distinction as the logical result of working within straitened budgets while having to provide the special features and facilities that insure health and security for those with diminished physical capacities. Yet, while it is certainly a challenge to exceed the program's limits, projects such as Plymouth Place, by the Mutlow Dimster Partnership, are encouraging in this respect.

Sponsored by Stockton Congregational Homes & Retirement Housing Foundation and subsidized by HUD, Plymouth Place is a five-story, 65-unit slab-shaped structure intended to be the companion building for an older seven-story slab that occupies the other half of the site. Since the older building had two floors of medical facilities and a large multipurpose space, the new one was planned with smaller spaces for eating and socializing on the ground floor, along with eight units specially equipped for the handicapped. A parking lot separates the two buildings.

Color is one key to the building's success in establishing a definite character for itself and its residents. A strong terra cotta is used on the building's long elevations in a pyramidal...
pattern, which centers on the recessed entrance bay. A beige tone balances the outer bays while the upper story and roof remain neutral, expressing a division into base, middle, and top. The use of spaced bars instead of solid panels for the balcony railing on the middle three floors is an aesthetic and a social plus. Residents can enjoy the view without having to look over a barrier while, from the street, the thin blue lines accent and lighten the elevations. The recessed balconies both shade the glazed areas and function as breathing or overflow spaces even when not actively used. The ground-floor units have small, walled patios. 

Set out from the east and west entrances are four-posted canopies, which shelter benches. Although they provide shade and some rain protection, these structures are mainly aesthetic devices. They introduce the path or spatial sequence through the building, which interweaves ground-floor public spaces with the outside circulation. The post and canopy system continues through the lobby, where a baldachin marks the central gathering place between the mail boxes and the reception desk. By raising this pattern above a matter-of-fact level, the designers have made a special context for the public life of Plymouth Place. The mint-colored interior is also soothing, particularly in Stockton's 100+ degree summer weather. As is true across the country, the majority of Plymouth Place's residents are women. Most are from Stockton or nearby. Though they have faced the usual problems of displacement and reduction of household contents, they have succeeded in personalizing their new homes in often ingenious ways. The uniformity of the unit plans has not resulted in redundancy as might be expected. The architects have shown consideration of the fact that the elderly typically rest more than younger people by making large bedrooms with a window positioned so that someone in bed can view the outside. Such considerations, though physically modest, help to rescue Plymouth Place from the banal and cheerless world conjured up by the category of subsidized housing for low-income elderly people. [Sally Woodbridge]
Community of differences

New housing is interwoven among older buildings, including a rehabbed apartment structure (top left). Site features such as fine redwood and incense cedar trees (top photos) are set off in public spaces. Decentralized common spaces include a community vegetable garden (top left) and a small lawn defined by a wood bulkheadseat (bottom left). Townhouse units are built on ground level or on top of parking garages (top right, bottom left). Similar units (bottom photos) have varied window arrangement, depending on outlook. All buildings have elements related to body size and human use: vertical windows, visible stairs and balconies for the flats, entry recesses and garden walls for the townhouses.

Defying labels, University Avenue Cooperative Homes is best described as an aggregation of buildings from various times, reflecting a variety of aspirations and living styles. Not conveying the image of a housing project was one of the client's major requirements. The other two objectives were affordable housing, presumably made possible by government subsidy, and the creation of a limited equity cooperative, one in which tenants would not be able to make a profit by speculating with their shares.

The Consumers Cooperative of Berkeley, reputedly the oldest such organization in the country, had gradually acquired the property adjoining one of its supermarkets on University Avenue. In the late 1970s, a separate nonprofit corporation, University Avenue Houses, Inc., was formed to develop this site, and a feasibility study was commissioned from Community Economics and Lyndon/Buchanan Associates. It was determined that about 50 dwelling units would be possible, given some adroit financing and ingenious use of the fractured site.

Gaining official approvals was an arduous process, but more perilous yet was the path to financing. Fluctuating interest rates combined with conflicting demands of funding agencies and sponsors and the vagaries of construction economics nearly sank the whole project several times. Indeed, when
A through-block walk starts between two rehabbed bungalows on Addison Street (below), where fragments of trellis suggest a gateway, then snakes between new structures (top right, opposite) that rise in height toward the five-story apartment block on University Avenue (overleaf). The unifying visual element—aside from stucco walls on most of the old and all of the new structures—is a coherent but by no means uniform color treatment. Derived from the landmark Fox Court residential complex adjoining this project on University Avenue, which has rubble brick and tan stucco walls with terra cotta colored trim, the UACH color scheme extends the range of earth hues for the stucco walls, with colors generally deepening toward the interior of the block. Unit interiors are light and unasservive in color, to allow for tenant individuality and enhance natural light.

the members of the University Avenue Cooperative Homes gathered on November 7, 1982 to celebrate the completion of the buildings, it seemed an altogether miraculous achievement.

Not that the buildings are extravagant. Providing good housing for low-income residents precludes all but the most basic amenities. Still, piecemeal building inserted into a dense urban site—the result of decisions to rehabilitate existing structures—is inherently more expensive than repetitive units on open land.

According to the architects, "Each time the project went over the brink, Joel Rubenzahl of Community Economics invented some new life line that would make us all believe again that it was possible even as we scrambled to cut costs without sacrificing fundamental amenities or compromising the dignity of those who would live there."

Finally, the City purchased the land and leased it to UAH, and a syndicated group of investors committed capital in return for tax benefits on depreciation. The Cooperative, in turn, has leased the buildings from UAH and will have the first right to acquire the property at the end of a designated period. Having qualified by income level, each resident owns a share in the Cooperative and receives a rent subsidy through the HUD Section 8 program. Construction financing
The 47 units include five remodeled bungalows, two of them enlarged with two-story bedroom "towers," 12 townhouses, six low-rise flats, nine one-bedroom units in a renovated apartment building, and 15 apartments in the new structure on busy University Avenue (photo opposite). Adjoining picturesque Fox Court (left in photo) the new building is topped by a steep gable. All new units have balconies; townhouses (plans below) have skylights over stairwells.

If low-income housing as a category evokes a stereotypical image, the UACH complex easily breaks the mold. Among other things, a range of ages from child to senior citizen fosters diversity of life style, and the elderly appear to mix well with growing families. Mixing appears to be invitational or casual rather than forced by spatial circumstance. In this respect, the architects have shown consummate good sense in the orchestration of private and public spaces. Instead of a site plan with a large shared space, they have created a variety of more or less private spaces partially screened by lattices and low fences. Thus personal gardens also benefit
the whole community. The decision to insert different combinations of new dwelling units among rehabilitated existing buildings of several types turned potential limitations to advantage, endowing the place with the character of an ongoing community.

To make a seamless fit with the neighborhood meant that the buildings had to change character from residential on Addison Street to mixed-use on University Avenue. The rehabilitated buildings include three bungalows and a corner apartment building on Addison Street, and two picturesque cottages on Sacramento Street. Three rental cottages and two garages were removed from the interior and replaced with higher density dwelling units. On University Ave., a parking lot became the garage under a new apartment building which defined a more appropriate scale for this important street leading to the U.C. campus.

The social coherence of UACH is as remarkable as the architectural. Buildings were completed in phases so that some could be occupied before completion of the whole project, thus helping with the financing and assisting the formation of the social side of the cooperative. Despite the usual difficulties of ongoing construction, the first residents became the core group that introduced the newcomers to the project. Though the life of the co-op has just begun, integration of all elements is well advanced.

[Sally Woodbridge]
Beyond cosmetics

The partial demolition of Pruitt-Igoe dramatized the physical and social problems of public housing in this country, but as a solution applicable to similar projects, it had little relevance. Most cities have not nearly enough new public housing to justify demolishing what they have. And as all types of rental housing become more scarce, cities have begun to see their public housing, however deteriorated, as a valuable commodity, often conveniently located and structurally sound. Rehabilitation, rather than demolition, has become the course cities now follow.

Unfortunately, because of inadequate funding, most of the rehabilitation that has occurred has focused on cosmetic improvements such as painting or recladding buildings rather than on substantial improvements to the layout of the buildings and grounds or to job opportunities and social services for the residents. What distinguishes the following projects is how far they go beyond cosmetics.

West Broadway
The rehabilitation of the West Broadway public housing in Boston by Lane/Frenchman and Goody, Clancy & Associates alters not just the appearance, but the organization and management of the project.

With almost 300 empty units in the project, the architects increased the size of the apart-
The rendering (opposite top) shows the gable roofs, bay windows, entry hoods, and painted and stucco finishes added to the existing, flat-roof, brick buildings to give them more identity. New through streets allow more curb-side parking and a better integration of the project with the surrounding neighborhood. The typical unit plans (opposite bottom) indicate how the existing plans will be combined to create units more in keeping with current space standards. Many first-floor units will have their own front and back doors. Each pair of buildings (below) forms a “village.” Residents in each village participated in the design and programming of the semiprivate court-yards, so that no two are alike. The courtyards will contain drying yards, playgrounds, raised terraces, and shaded seating areas.

—

ments (without displacing people) by connecting some flats horizontally and others vertically. Large family units have their own front and back entries. The courtyards, through the construction of walls, fences, and raised terraces, become semiprivate backyards for the apartments in each pair of buildings or “village,” making the space more secure and easily maintained. New through streets allow curbside parking while a new “main street” provides a focus for the project, containing community facilities such as the management offices and the teen and elderly centers.

To break up the project’s scale and to lend identity to each village, the architects added such elements as hip roofs, bay windows, and entry hoods to the buildings and varied the colors and materials. Courtyard designs also vary, based upon the suggestions of residents. The breaking down of the project’s physical scale is echoed in its decentralized management, with each village having its own manager as well as management positions for people living in the project.

Lake West
What makes Lake West, a proposed rehabilitation of the public housing in West Dallas, significant is not just the size of the project (its 3500 townhouses made it the largest low-rise public housing project in the country), but its ambition. The scheme, developed by Peterson, Littenberg, Architects, with
associated architects Selzer-Volk-Borne, engineers Carter & Burgess, and Real Estate Research Corporation, has some elements in common with the Boston project. It increases the number of through streets to give each unit an address and curbside parking; creates urban blocks and squares by demolishing or rearranging the monotonous rows of buildings; provides semiprivate courtyards with walls, gates, and landscaping; and improves the residential image of the project with the addition of gabled roofs, doorway hoods, and classically inspired trim.

Where Lake West differs is in its creation of a multidimensional town, with a mix of incomes, building types, and job opportunities. The proposal calls for a sizable town
The existing and proposed site plans (opposite) show the conversion of the parallel bars of buildings into blocks that enclose private courts and define public squares. The extent of conversion is apparent in the axonometrics (left and below). The rectangular blocks will enclose private yards and pedestrian walks; the L- and H-shaped blocks also will have parking garages. The buildings themselves will receive gable roofs, porches, gateways, and added trim.

Both the Boston and Dallas projects apply—brilliantly—the lessons learned about public housing over the last 20 years: lessons about defensible space, residential imagery, and low-rise family housing. And both present a new vision of what public housing could be: collections of semiautonomous villages or self-sufficient towns that are socially and economically integrated and that act as their own magnets for jobs and services. What's lacking from our policy makers is an equivalent public vision and as strong a commitment to preserve what has become a valuable resource: public housing. [Thomas Fisher]
Introduction

Government-assisted housing in America is passing through a radical transition: Assistance for developers of new and substantially rehabilitated housing is yielding the last, diminished number of units; superseding these programs are expanding ones that assist tenants to rent existing units. At this time of critical change, we have asked some of the nation's most respected authorities on housing to share their views on the condition and potential of social housing in the United States. (We used the term "social housing" to elicit observations beyond the narrowly economic ones implied by "subsidized.") Their essays are arranged here to proceed generally from issues of policy to aspects of design. As background for these essays, we offer a brief rundown of Department of Housing and Urban Development programs.

**Public Housing.** Conventional low-rent public housing is developed, owned, and operated by local agencies and financed by the sale of tax-exempt bonds, which are paid off by the federal government. Operating costs, originally covered by rents, now demand federal support, which in 1983 reached $1.2 billion. Rehabilitation of aging public housing is also getting substantial federal support. New public housing has been almost totally phased out.

**Section 8.** This program for "lower income" families has included a range of types: new construction, substantial rehabilitation, and now—in sharply rising numbers—existing housing that meets quality standards and "fair market rental" guidelines. Families certified as eligible can now get assistance to rent existing housing—including their present quarters. Owners may get assistance for moderate rehabilitation to make units qualify. Section 8 programs for new and remodeled units are being phased out.

**Section 202.** Low-interest loans are offered to developers of housing for the elderly or the handicapped. Low-income tenants may also receive Section 8 assistance. The program continues, but 1982 directives require "modest design" for "cost containment" estimated to save $4000 per unit.

**Section 236.** This program combined reduction of mortgage interest for developers of qualified housing with rent support for some tenants. A major construction incentive in the 1970s, the program has been phased out, but about one half million tenants still receive 236 assistance.

**Block grant programs.** Community Development Block Grants are made to states and localities to promote community development objectives. Urban Development Action Grants go to "distressed communities" mainly for economic development, only partly for "neighborhoods." There must be local government or private funding at least 2 1/2 times the federal contribution, usually much more.

**Housing vouchers.** Subject of a pilot program with debatable results (see essays by Downs and Sternlieb), housing vouchers are proposed by the Administration for full implementation next fiscal year. Tenants would receive the difference between "fair market rental" of appropriate units and 30 percent of their income. Recipients could choose units at rentals above or below guidelines without affecting amount of their assistance.

[John Morris Dixon]
Dealing with the affordability crisis
Chester Hartman
Fellow, Institute for Policy Studies, Washington, D.C.

That America is experiencing its greatest housing crisis since the Depression should not be doubted. It is a crisis of affordability. The 1981 Annual Housing Survey reported that 25 million households, renters, and owners, were paying more than a quarter of their incomes for shelter, of which 8 million were paying more than half their incomes. Between 1975 and 1981, because of escalating house prices and interest rates, the income needed to afford a 75 percent mortgage on the average-priced new single-family home rose from two percent below the nation's median family income to nearly double the nation's median family income.

The reasons for this crisis? Simply, for most people, housing costs have been rising far faster than incomes. And the inevitable profit-maximizing behavior of the major actors in the housing process—credit suppliers, land sellers, developers, materials manufacturers, owners—drives shelter costs inexorably higher.

This affordability crisis is endemic to our system of housing production and operation. It has been successfully managed over recent decades, in part, because the government has subsidized credit—thereby enabling currently incurred costs until incomes can catch up with current consumption patterns. But this jury-rigged system can no longer do the trick. The economy is no longer growing in ways that can sustain so heavy a reliance on credit. New mortgage instruments are shifting the burden of inflation from lenders to borrowers. Consumers' ability to pay credit costs of all sorts is being strained to the breaking point, as rising mortgage foreclosure and default rates show. The forcible displacement of 2 1/2 million Americans each year, and the increase in the most extreme housing problem of all—homelessness—are other indices of the affordability crisis.

The history of government-supported housing in the U.S. suggests the only way we can deal with the crisis is by removing housing from the profit sector. For all its faults (exaggerated by its critics, made virtually inevitable by the program's financing defects), public housing embodies two principles essential to meeting the housing needs of lower- and moderate-income Americans: 1) capital costs are paid for just once, via a bond issue or grant, thus eliminating the mortgage structure that creates a permanent and ever larger financial burden on housing consumers; 2) the consumer's housing costs are determined by ability to pay.

We must redirect housing programs so that an ever-larger portion of the stock is developed, owned, and operated by government and private sector nonprofit agencies, financed without ongoing mortgages, and never treated as a commodity. And ability-to-pay standards, rather than being a fixed percentage of income, must be related to household size and income, which determine what households can afford for all necessities of life.

The costs of such a program will of course be vastly more than the government now allocates to housing—although long-term housing costs to the society will be markedly reduced, without the ongoing burden of repaying borrowed capital. But the nature of the housing cost/household income gap is such that we will never provide every American household with a decent, affordable home in a suitable living environment without greater government subsidies. And the cost is not so large, compared with our unproductive, hazardous "defense" expenditures, or even with the government's biggest housing program of all, the homeowner deduction, which, at $45 billion a year, is about six times what the government spends directly for low-income housing subsidies, and which primarily aids those who need help the least, the upper middle class and the superrich.

The dim phoenix: U.S. social housing
George Sternlieb
Professor of Urban and Regional Planning, Rutgers University, New Brunswick, N.J.

It is more than a decade since President Nixon imposed a moratorium on direct federal subsidization of low-income housing, with remarkably little in the way of protest. The rise, and brief moment in the sun, of Section 8 subsidies has largely come to an end; the pipelines of old programs have run dry with little in the way of replacement. Why?

Housing programs, with the possible exception of the conscience-stricken period of the Great Society and the urban riots, have been most fruitful for the poor when placed in the context of omnibus programs, i.e., housing that provides shelter and opportunity for a broad spectrum of the public. They suffer when focused on the needs of the poor alone. In recent years, they have faced an electorate that is more concerned with the future of middle America—and a crisis of confidence in its own capacity to sustain the good life—than it is with the issues of equity. Limited-growth societies—sadly enough, characteristic of the U.S. through most of the 1970s and early 1980s—are not societies that give great priority to the caboose on the economic train.

In social housing, the current Administration is following a path defined by its predecessor. The social compact of New Deal days, which used housing ownership accessibility as part of the glue to the social system, has largely been abrogated. Indeed, there are some members of the Reagan economic team who view an assumed pattern of overexpenditure in housing as part and parcel of the failure of America's economic mechanisms to keep pace with competition. Their basic approach to housing, therefore, revolves around loopholes in taxes, rather than explicit subsidies. Thus, the 15-year write-off now available for apartment development is attracting hordes of refugees from high-tax levels. The rise of the secondary mortgage market has provided a new liquidity for housing debt, and has lowered much of its cost, with 60–80 percent of home mortgages supported by FNMA or GNMA guarantees, with their close equivalence to government bond rates. The latter, certainly, are high enough, but the gap between 30-year government and mortgage interest rates has never been so low. When coupled with the increased use (and sometimes misuse, through buy-downs) of variable-rate mortgages, they've made housing the Wunderkind of 1983/early 1984.

But these are programs that are neither targeted—nor particularly significant—to the provision of social housing. They facilitate the middle range without requiring a strong, broad political constituency. Indeed, they rather exclude the poor. The Administration has proposed housing vouchers, i.e., demand-side inputs, in place of the augmented supplies that were envisioned under 235–236 or Section 8 New Construction. This venture seems to have little in the way of priority attached to it, and for the moment is lost in the congressional committee system, residing in the same cavern of inattention as the Urban Enterprise Zone.

Will social housing emerge as a new priority? I would suggest that this could take place only at two potential ends of the economic spectrum: as a result of a change in administration, coupled with a severe downturn of the economy, with social housing being used as a countercyclical tool, i.e., a reversion to its classic role dating back to the 1950s; or, second, with the sudden reinvention of black political potency, as part of an omnibus new general housing bill replacing the present approach, which is flooding the government bond market.

In the meantime, the field of social housing, in and of itself, has many friends—but few potent lovers.
Why housing vouchers

Anthony Downs
Senior Fellow,
The Brookings Institution,
Washington, D.C.*

The main "housing problem" in the U.S. is caused by poverty, not by shortages of decent quality housing. Because those of poor households must spend high fractions of their incomes to occupy decent units, their other purchases are restricted, or they occupy cheaper, poor quality housing.

The best remedy would be improving the incomes of the poor through both lower unemployment and more extensive income transfer programs. Such goals should have much higher social priority than any housing support program. Here, Graham has historically refused to expand income support programs enough to eliminate poverty. It prefers in-kind assistance, presumably because the industries furnishing it benefit too. Examples are food stamps and Medicare.

If further aid to the poor is to be provided through housing-linked aid, a housing voucher entitlement program for low-income renters would work by paying the difference between the average rent for a decent unit in each area and a certain fraction of the household income, say 30 percent. All renters with incomes below one-half of each area's median should be eligible. The Experimental Housing Allowance Program showed that only 40-50 percent of those eligible actually participate—vs. about 80 percent in a "pure" income support program. Renters must reside in "decent quality" units to receive aid, but many in substandard units do not choose to upgrade or move in order to qualify.

Although a housing voucher entitlement program would not benefit architects much, it has several advantages over new construction subsidies. It costs only about half as much per household aided, because all newly built units cost far more than the poor can afford. It makes more sense to let those of non-poor households occupy new units, and help the poor pay for older ones that have filtered down the inventory but are still in good condition. The chance to receive housing vouchers would also motivate many landlords to renovate older units that are in poor condition.

Second, a housing voucher program does not generate local controversy about where to put subsidized housing. The recipients simply rent existing units in the market. Third, it has modest spatial integration effect. It helps some households move out of poverty through the inventory but are still in good condition. The chance to receive housing vouchers would also motivate many landlords to renovate older units that are in poor condition.

A housing voucher entitlement program has two main drawbacks. It would cost at least $8-10 billion per year. However, we could pay that without increased the federal deficit by reducing homeownership tax benefits, which now go mainly to affluent households, by about 25 percent. Also, though a housing voucher program would stimulate renovation, it would not stimulate much new housing construction.

Even so, I believe government aid for the poor should aim mainly at their poverty rather than their housing. A housing voucher entitlement program financed by reducing homeownership tax benefits would do just that. Most of the funds would be used as direct income supplements. This would both increase the justice of the overall distribution of housing assistance among U.S. households, and effectively attack the nation's severest housing problem.

* The views expressed in this article are solely the author's, not necessarily those of the Brookings Institution, its Trustees, or its other staff members.

Integrating housing with other efforts

Peter Calthorpe
Partner, Van der Ryn,
Calthorpe & Matthew,
Sausalito, Calif.
Visiting Professor,
University of California Berkeley.

We can no longer afford to solve social, economic, and environmental problems separately. Housing, transportation, land use, pollution, energy, and ecological issues can no longer be compartmentalized and treated with individual mitigation, subsidies, or camouflage. There is, oddly, a great hope in the frugality that is currently causing such dismay. It is that our solutions must become multifaceted, combining efficiencies and capital from sources heretofore unrelated.

Let us take, for example, transportation. A study of the Washington, D.C., Metro showed that the complete system could have been paid for by capturing the increased land value around the terminals. Seen inversely, a transit system has the capacity to generate a massive subsidy for housing projects if the two are considered simultaneously. Instead, affordable housing is currently driven to the extremities of our metropolitan areas to find cheap land. This pattern purports to reduce the transit system and places the cost and time burden of commuting on those least able to afford it, the working poor.

In 1879 Henry George, a San Francisco journalist, published Progress and Poverty, a radical economic thesis based on land distribution. He had recognized that the great U.S. transcontinental railroad's completion had obviously increased land values around the Bay Area tremendously, and he questioned who truly had a right to that margin of value. Ebenezer Howard was profoundly influenced by George's theories and, in modified terms, used them as the basis for his Garden Cities. In his New Towns, he proposed that "The change in land values created by the community should be enjoyed by the community." In this case, the existence of a working population rather than a new transportation system was creating value. But the concept purports that the local government should enjoy the fruits from a public act should be captured for the common good.

There are several contemporary ways of employing this concept. If, for instance, a light rail system is deemed feasible in an area, to be paid for by state highway funds, eminent domain is typically used to acquire the land at current market values. Additional land at the stops could be purchased, zoned for mixed use, and leased or sold to developers for a large profit. The increased land values resulting from the new transportation system itself.

The beauty is that it places affordable housing where it should be, near services and transit, it reinforces the ridership of the rail line and therefore the economics of the system, and it doesn't cost the taxpayer.

In a similar manner, land zoned for office and general employment uses derives an indirect incremental value if housing, and therefore the workforce, is conveniently located. Seen inversely, office construction often creates a local housing shortage. Correcting this reestablishes the value of the commercial development and should therefore be subsidized by it. San Francisco has a program of taxing office developers to fund housing subsidies.

Energy conservation provides another example of solving simultaneously previously disconnected problems. Inefficient homes can stand larger mortgages and, more important, reduce peak demands on the utility companies, thus avoiding new power plant construction, another potential subsidy.

These are just a few of the many opportunities to show that the sum of two problems is perhaps none. If we can no longer afford to subsidize each of our problems individually, perhaps we may be forced to learn the lessons of whole systems design.

Peter Calthorpe is coauthor, with Sim Van der Ryn, of Sustainable Communities (in process).
Needed: A new housing movement

C. Richard Hatch

Architect, New York,
Professor,
School of Architecture,
New Jersey Institute of Technology.

Redesigning the American dream

Dolores Hayden

Professor,
Graduate School of Architecture and Urban Planning, University of California, Los Angeles.

If we are to resolve the linked problems of housing affordability, production, quality, and control, America will need a new housing coalition. The traditional political bloc has collapsed. Developers have gone either "up scale" or out of business with the escalation of interest rates. Bankers have found balance sheet bliss outgrowth of the labor movement, and tried by unions here in the country. A coalition can be built around local needs and local action. We will need an institutional structure that encourages broad participation, a model that reflects the diversity of people and places, a program that avoids both "giveaways" to avaricious developers and the inflationary potential of income supplements such as housing vouchers.

The Mutual Housing Association is such a concept. Familiar in Europe—where MHAs operate huge quantities of housing as an outgrowth of the labor movement here in the past, it is an idea whose time has come again. MHAs are nonprofit membership organizations. Some have been formed to deal with the housing needs of particular neighborhoods, others with those of particular groups—workers, artists, the handicapped. An MHA is a professionally staffed development vehicle that utilizes members' dues and savings (many function as thrift institutions) and management fees from completed projects to leverage new ones.

Recent American efforts to adapt the MHA model have gotten off the ground by rehabbing foreclosed buildings, using a combination of CDBG loans, sweat equity, and bank financing. In contrast, European MHAs rely on an unusual and cost-effective form of subsidy. After approving quality and costs, governments there provide variable development grants. The one-time grant concept encourages housing production, but at a lower cost to the taxpayers than the long-term subsidies of Section 8 and similar programs. MHAs couple these grants with conventional mortgages to build housing. The grants are calculated to reduce carrying costs to levels within the reach of intended residents—those at the top of the MHA's waiting list.

Completed MHA housing may be offered as rentals or limited equity cooperatives. A permanent "mother-daughter" relationship between projects and the MHA guarantees professional operation and maintenance. Residents participate in management decisions and, as MHA members, elect representatives to the MHA Board. Membership recruitment leads to increased popular involvement in housing issues. Commitment to ownership and management puts emphasis on quality construction. Local control and popular participation offers support for innovative design. (Much of the highly regarded 20th-Century housing in Holland and Germany is MHA-sponsored.)

Architects can contribute to the housing movement as facilitators as well as designers. Knowledgeable about development procedures as well as local needs and opportunities, we can educate ourselves and take the lead in building a national network of MHAs. Working together we can focus attention on the housing problem, propose architectural solutions that win popular support, and generate demand for responsible and compassionate government.

C. Richard Hatch is Editor of The Scope of Social Architecture (Van Nostrand Reinhold, 1984).
Expanding the architect's design concerns

Oscar Newman
Architect, city planner, and director of the
Institute for Community Design Analysis, New York

Architects can play a significant role in improving the lives of millions of low- and moderate-income Americans—the one substantial group in America whose housing we design. Single-family houses, for all but wealthiest, are designed by home builders; the design of dense, multifamily dwellings, however, requires the services of an architect. To this task architects bring a unique combination of skills: our knowledge of the techniques of construction; our artistic talents; our sensitivity to the psychological effects of space; and our ability to project a variety of spatial solutions to a single problem. We may take these multiple skills for granted, but who else possesses them? Certainly not housing bureaucrats, developers, or social scientists.

Architects can make the individual family home both more inviting and useful; they can facilitate the positive interaction of neighbors; they can enhance the image residents have of themselves in their community; and finally, they can reduce residents' vulnerability to antisocial behavior—not an inconsiderable problem in low-income neighborhoods.

Our institute's research these past 15 years has demonstrated that many of the above psychological factors are indeed controllable through the layout of individual dwellings, their grouping around collective areas, their positioning relative to streets, and the symbolic meaning of a dwelling's external form.

But—and there is always a but—to take on this crucial assignment and to discharge our social obligations well requires us to sublimate our visual predispositions and place the needs and tastes of our clients uppermost. To give an example: For most architects, Habitat '67 represents the cost-saving solution to the problem of high-density housing. Yet for all its height and mass, Habitat achieves only the density of row housing, and it does this at eleven times the cost. Furthermore, its units are small, its buildings have tremendous upkeep costs, and few families have direct access to the grounds. In total, Habitat '67 is little more than a spectacular solution to the visual boredom of row housing.

Given that the client we deal with in subsidized housing is the housing agency and rarely the tenant user, the restraints traditionally put on the architect are not in place here. It is, therefore, all the more essential that we give primary consideration to the needs of our client users and only secondary concern to the accolades of our peers.

In our institute's most recent work, we have been exploring programs to expand the role of the housing architect even further. We feel that in the early stages of project programming, architects have much to contribute by using their knowledge of the relationship between building type and family type to enable developers to achieve an overall high density while still ensuring that every life-style group is housed in the form of dwelling that most befits it. Similarly, much of the success of subsidized projects has been shown to be the consequence of the controlled mix of income and racial groups, and we feel that architects can play an important role here by using their experience to help determine policy. Finally, the success of the management and maintenance organization that is put in place once a building is occupied is far more related to the original design of a building than most recognize; architects, therefore, should be planning for management even as they begin the design of their buildings.


Elderly housing: Warping the design process

Sandra C. Howell
Associate Professor of Behavioral Science, Department of Architecture, MIT.

Federal Government regulation constrains and insults quality design. Where this has recently become most evident is in the creation of subsidized environments for elderly and disabled.

The Section 202 Program, from the late 1970s to 1981, was beginning to stimulate quite varied and innovative building. Architects seemed to be competing in terms of quality as well as cost. In one Boston development alone, the improvement from 1972–1980 (in four successive buildings under the same sponsorship) stands as witness to the creative space and design innovation possible by an increasingly informed, evolving regulatory umbrella.

Using the euphemism "modest" to describe new design regulations, HUD now admonishes regional review authorities to extend the limitations on unit types, size, and amenities in 202 housing (HUD Notices H81-65; H83-9; H83-21). The precise ways in which these regressive and insensitive directives functionally and aesthetically affect the built environment are discernible. The architect and/or sponsor must "prove," through costly review procedures, that any deviation from a shoe box will not exceed published Fair Market Rents (FMR). Varied roof lines, building articulations that reduce corridor length and allow natural light penetration, and contextually appropriate finishes are out.

Where, in earlier elderly settings, unit and building variations plus quality detailing were making notable contributions to the architectural landscape, the new directives virtually mandate a return to the traditional Public Housing image.

From the standpoint of interior specifications, the new "cost-containing" requirements are antithetical to comfort and habitability. For example, the recommendation to use larger rather than smaller windows creates difficulties for elderly in operating, cleaning, and draping, according to research I've done cross country. The recommendation for "full width, metal bifold closet doors" is directly in opposition to user experiences with them that we have encountered, and the reduced space allotments for one-bedroom units virtually trap the elderly couple in "tight spaces."

In response to requests to architects and local agencies for opinions on the impact of current HUD regulations on design of 202 housing, I share the following:

"HUD's cost containment goals could certainly be achieved without forcing the architect to adopt simplistic design solutions."

"The architect has to front-end all costs to closing. Given the new regulations, no one can afford design innovation."

Government programs will continue to be critical for the production of housing, especially for the suburban elderly in the United States. There is increasing evidence that older people, particularly in the rental market, are seriously disadvantaged in their search for comfortable and supportive accommodations; thus income supplements alone are inappropriate to this constituency. While private developers and national franchises appear to be vigorously exploring the new market of old people, it is my belief that they, too, are going to require government incentives and, most certainly, guidance from a sophisticated group of now-knowledgeable architects. Massachusetts has taken a leading role in commitment to produce small-scaled congregate settings as a result of effective teamwork between citizen groups, architects, and researchers.

A penurious Federal Administration, in its short-run goal of trimming deficit, appears to be diminishing environmental quality as well as the professional group that society has appointed producers of that quality.
Particulars of housing design

Donlyn Lyndon
Partner, Lyndon/Buchanan, Berkeley, Calif.
Professor of Architecture, University of California Berkeley.

The problem for architects is not how to design good government-supported housing, but how to make places that people can call home. How resources can be allocated to make such places affordable (by subsidy, tax mechanisms, income redistribution, etc.) is a separate, albeit urgent, problem. The design of housing frequently becomes so beset by the demands of production (cheap construction, tight fees [paid late], insistently scheduling demands, and indolent bureaucratic procedures) that the problem is almost entirely transformed into a struggle between regulations and expediency. What it takes, nevertheless, to make places that people can call home is probably straightforward: light, outlook, ease of movement, a chance to claim things as their own (to make choices), and connection to a community.

Light is important because it makes everything else in a place come alive. Different patterns and tonalities that well-placed light can give to a dwelling signal relationships to the immediate surroundings: light entering from only one side speaks of confinement; rooms with light from the sides or above evidently stand free.

Outlook is different from view. Outlook in dense housing is specific, filled with information about the collective of which it is a part, and crucial to the sense of differentiation that real places must develop. This requires a carefully considered sense specific to the dwelling and its position in the larger site. Stamped out patterns (poignant or otherwise) won't work. Looking from inside to out and from outside to in is a form of social exchange that needs subtle modulation. Privacy should be attainable, not physically enforced. Suggestively defined outdoor spaces establish territories for sociable exchange.

Movement contributes to the sense of underlying ease that is essential to feeling at home. The core movements in a place should be compact but gracious, not harshly channeled; this does not necessarily equate with "an efficient core."

Dignity lies in the allowance for making choices. Any housing community should include several forms of dwelling organization to allow for differences in living patterns and interests—even for differences in how we imagine ourselves that housing environments always go beyond what is simply expected. It is that extra care that counts: a craftsman's ingenuity in construction, a designed accommodation to existing features, or a tenant's investment in tulips. There must be space in which to improvise; riches and ledges and boundaries to collect the inhabitants' ongoing attention. Ideally (and most effectively), the occupants will first have a hand, or at least some voice, in creating the place, so that it becomes their own even as it is being built. But opportunities for participation must exist in the place itself, not only in the processes that produce it.

Finally, individual dwellings must have some evident relation to a larger community. To be prudent it makes more sense to fit new housing in among existing community and weave a common place than to isolate and segregate new construction from old, subsidized or not. The constraints of a specific site become assets in the creation of identity.

What it takes to do more. The incentives are to do less. Individual attention is precisely what most government subsidy programs have discouraged. By combining an arduous, usually rigid review process with funding mechanisms that provide no money for design fees until the project is "closed" with an executed construction contract, the federal programs have created incentives for the mindless replication of approved patterns. This stamps projects with the marks of production simplicities to an extent that makes it hard for a building ever to belong in even the most ephemeral manner to its inhabitants.

Need for variety and personalization

Joan Goody and John Clancy
Principals,
Goody, Clancy & Associates,
Architects, Boston.

As architects for a considerable amount of government-supported housing, from new projects for the elderly to the rehabilitation of large, distressed housing projects for families, we have some strong ideas about what makes a good place for living—and what leads to the dreary and abused places called "projects." A good place to live in is indeed a living place: it has and it remembers its past, it is responsive to the needs of its present occupants, and it suggests that there will be future changes to come. Unlike the identical, sterile, "faceless blocks" of the housing project (where the only changes are through defacement and graffiti), a good place to live in has variety and invites personalization. It may have a subtle variety (of differently shaped windows or roofs, of color for trim or doors, of garden fences or plantings). Ideally these variations and changes will have occurred over a long period of time, with each generation making its additions and alterations, enriching the whole.

When we build or renovate 100 or 1000 units of housing at once for a Public Housing Authority, it is difficult to create those differences and make them convincing. But it is possible to make a start by having variations within the limited palette usually allowed by tight budget and maintenance constraints. There must be more than one acceptable shade of brick or of wood stain. The same number of apartments can be accommodated in a group of buildings that vary from two to four stories as in all three-story blocks. And there must be ways to allow tenants to distinguish and personalize their own units with limited means: small garden areas, a place for a window-box, or a front door embellishment.

This extension of the privately controlled domain of the tenants to their doorstep, window sill, or small yard gives increased opportunities for personalization and reduces the vast unclaimed territory that characterized the traditional "project." It can help create pride in one's home and can be extended to a sense of belonging and community.

Architects cannot do this alone—management must be a willing partner. And most important, the tenants must be involved in making group choices (from several reasonable alternates) of kitchen cabinet styles and flooring patterns, or play equipment and trim colors. They bring a perspective and knowledge no outside expert can have, and when they know and understand the process of choice, the results are theirs—and more likely to be maintained and respected.

Alas, recent HUD regulations have all but eliminated any opportunities for these variations; only the plainest box is now allowed. All else is considered "frill." How shortsighted: It is just these small changes (adding truly little to the cost) that can make the difference between a living place and a dead project.

Further reading

Basic housing statistics and Administration policies are spelled out in annual reports by the Secretary of Housing and Urban Development. Excellent policy discussion is found in Housing America, Annals of the American Academy of Political and Social Science, January 1983 (Sage Publications, Beverly Hills, Calif.)
Comme des Garçons
New York

With Ma in mind

No mixed metaphors mar this spare boutique, designed by Rei Kawakubo for her own line of clothing.

Tokyo-based fashion designer Rei Kawakubo is hot. Her Comme des Garçons label epitomizes that peculiar savage grandeur that has made Japanese design a Western obsession, and the new shop for her collection in SoHo perfectly conveys the unyielding aesthetic. This is a design ethic that leaves nothing to chance, but relentlessly pursues the goal of total unity or “Ma.” The clothes, the space and its fittings, even the music are rigorously coordinated, and Kawakubo controls it all, from the design of the clothes to their display in Tokyo, Paris, and now New York.

Fashion maven Dianne Benson, whose shop Dianne B. has become something of a SoHo landmark, is responsible for bringing Kawakubo’s fashions to New York. It is Benson who found the space in the ground floor and basement of a designated landmark on Wooster St. Kawakubo saw the unrenovated space only once; her design concept, which was drawn up by Takao Kawasaki in Tokyo, was executed by Dianne Benson and Howard Reitzes of New York.

The SoHo shop is the first to carry the entire collection, with women’s clothes on the ground floor and men’s one flight below. (Each line is carried by a separate boutique in Tokyo.) Given Kawakubo’s desire that the entire space be given over to the display of clothes, there is little or no conventional office/storage space, and much of the backstage business is actually carried out a block away at Dianne B.’s. Significantly, the first major change proposed by Kawakubo was the removal of a skylight—the one conventional “perk” of the original space—across the rear of the ground floor.

Everything in the space conforms to the overriding aesthetic; container and contained are all of one piece. No price tags dangle from the merchandise, no loose sales slips clutter the discreet sales desks. Yet the space is not a cold one: its severe lines are modified by dramatic lighting, its austere shell tempered by irregular hand-smoothed plaster surfaces and rough wood display boards.

The shop’s least successful feature is its rather heavy aluminum storefront. Kawakubo’s proposed floor-to-ceiling glass storefront was not accepted by the landmarks review committee, but Benson expects eventually to replace the bright aluminum with a wood frame painted charcoal black more in keeping with the interior.

A second Comme des Garçons, scheduled to open in San Francisco the first week of September, is if anything more minimal than the first. The basement space off Union Square is to be entered by a bridge, which appears from the street to terminate in a blank, concrete wall. If Kawakubo has her way, no clothes will be visible from the street; only a discreetly lettered Comme des Garçons label will clue in the cognoscenti.

[Daralice D. Boles]
On the ground floor, clothes are displayed on wall-mounted racks (below left) or freestanding sculptural display boards (facing page). Rubber curtains conceal the changing booths (below right), which are situated behind the cashier’s counter (bottom left). Downstairs, wall-mounted display shelves and chrome-finished pipe racks line the space with a glass-topped cashier’s counter at the rear (bottom right).
Project: Comme des Garçons, New York.
Design: concept, Rei Kawakubo; executed by Takao Kawasaki, Tokyo; Howard Reitzes, architectural consultant, New York.
Client: Dianne B. Benson.
Program: conversion of two floors of a designated historic landmark in SoHo to 6000 sq ft of retail.
Structural system: existing concrete foundation; brick bearing walls; wood floor; cast iron columns.
Major materials: concrete plaster walls, floors, shelves, and benches; clothing racks constructed of 4" diameter black pipe with chrome finish; display tables of 3" x 8" wood joints with black painted finish; cashier counter, ground level, of 2" x 2" angle iron with oak plywood top and black painted finish; rectangular tube railing (see Building materials, p. 130).
Mechanical system: oil-fired baseboard heating and central forced air; electric heating coils, lower level.
Consultants: James S. Kuncze, lighting and electrical contractor; Alatis Painting; Castel Iron Work, structural and decorative steel work; Parallel Fabricators & Construction, millwork; Silmac Glass & Storefront Corp., storefront; Palone Bros., air conditioning.
Contractor: Howard Reitzes, Parallel Fabricators & Construction.
Photography: Paul Warchol.
Cheese biz

A new headquarters for Parmesan cheese makers by Guido Canali includes offices, laboratories, and an experimental cheese dairy.

"When we look at how other people make cheese, we don't look to Holland or Scandinavia, which are so famous for their cheese. This surprises many people," explained Italian dairy chemist Leo Bertozzi, at the Parmesan cheese consortium in Reggio-Emilia. "We look instead to France," he said, "because they still make it the same way we do: by the small, individual dairy farmer, rather than in large factories."

One advantage of the large factory, however, is that it can implement and maintain strict standards of quality control and other regulations. But with many small farmers making only one type of cheese, standards are much more difficult to maintain. Such is the case in the Po River Valley of Northern Italy where Parmesan cheese, which is correctly called Parmigiano-Reggiano, is made. There, around the five cities of Parma, Reggio-Emilia, Modena, Mantua, and Bologna, 1200 small dairy farmers still make Parmesan cheese today the way it is known, by written records, to have been made at least 700 years ago, and probably even longer.

One of the most recent developments in this long history of cheese making has been the establishment, in Reggio-Emilia, of one official organization for all of the cheese makers. Although regional headquarters still exist, such activities as gaining legal recognition of standards, of providing absolute guarantees of authenticity, of protecting the use of the brandname, and of experimentation will now mostly be centralized in one building. For these functions, the new building for the Consorzio del formaggio Parmigiano-Reggiano has been organized around an administrative/reception center, from which extend offices, meeting and conference rooms, an auditorium, laboratories, and even a small dairy and a caretaker's house.

The most noticeable feature of the building is the entry ramp, which takes pedestrians from the north and south ends of the site to the third level entry-reception area. Although the ramp serves a limited purpose now, since there are ground-level entrances at the east and west sides of the building, it was designed with other uses in mind. It was to be a means of circulation for the entire long and narrow site, which was originally planned for two additional linear buildings similar to the existing one. And, it was also designed originally to cross over the ring road to a housing complex at the north of the site, and to cross another road at the south of the site to join a public park. At that end, it was to pass through an antique cheese dairy which subsequently had to be removed.

The main body of the building, which houses the offices, auditorium, meeting rooms, laboratories, and cheese dairy, is framed in the same reinforced concrete elements that support the suspended entry...
The exterior circulation ramp (below and facing page) is made of the same reinforced concrete frames that form the rest of the building; bays at the north (below) and south (bottom left) ends are void to clarify the structural relationship between the two parts of the building. Small square voids in the concrete block walls of the service area (bottom left) appear to be ventilation ports but are not; they are glass-filled. The formal entry to the building is at the third level on the east side (bottom right). A naturally ventilated experimental cheese dairy occupies the north end of the building (below), while skylighted laboratories are behind it on the top level.
Inside, a three-story-high circulation area is placed between the functional and service areas (below and facing page). Stairs and some corridor floors (bottom left) in this area are of metal grille to allow light to filter to the bottom of the planted, atriumlike space. The long corridor with its glass gable roof runs the entire length of the building, from north to south, and is only interrupted at the building’s midpoint, where the auditorium occurs (see section B, below left). Near the entry from the auto court on the west side, a night view (below left) looks through the three-story-high circulation area.
ramp, but they are filled in with concrete block or curtain wall. At the south end of the building, the first framing element at the front of the main block has been left unfilled to clarify its structural relationship with the entry ramp.

Moving laterally through the building, from east to west, the next zone is the linear three-story high circulation area. Its upper-level floors are of metal grill so that sunlight can flood the space where vines will eventually hang from the pipe railing, forming an interior greenhouse to complement the arbor that the pedestrian ramp is ultimately to become.

The fourth and last zone of the building is the service area at the west side. Here, the bathrooms, storage, vertical circulation, and mechanical areas are contained within the most solid part of the building, which has been designed for protection against late afternoon sun. This concrete block portion is also the part of the building that would most readily clue a viewer to its agricultural use, since farm buildings in Italy, including cheese dairies, are commonly constructed of various kinds of masonry units with voids left for ventilation. Here, however, the voids are glass filled, since the building is air-conditioned except in the experimental cheese dairy. Nevertheless, all windows are operable, but only those in the dairy had to be because the cheese making process, even in an experimental condition, must be as natural as it is on the farm. As a safety precaution, the boiler and the exhaust stacks have been placed outside of the building, in the zone between the pedestrian ramp and the main block.

While there is little doubt that the site played an important part in the form that this building was ultimately to take, there were other influences that have been equally as strong. One is the neo-Rationalist movement that arose in Italy in the 1970s through the influence, primarily, of Aldo Rossi. This building, although highly Rationalist in its abstract, elementary composition, seems, however, not to look so much to Rossi’s type of elementary form as it does to a more industrial aesthetic, which is more concerned with the techniques of building and construction than with typological form. In this respect, the building becomes autonomous, or self-referential, in that it concerns itself formally only with the material and constructive matters unique to architecture and building. There is no historicism, no references to anything else, no attempt at typological identification, no decoration, and no real clues to its use. In this regard, the building is closest to the earliest phase of Italian Rationalism, before the movement became burdened with meanings intended to serve baser notions than those envisioned by the early idealists. The main difference between their works and this is that materials are more clearly expressed here. But poetics no less so.

[David Morton]
One of the 700 choices of LouverDrape® colors & textures

Among those 700 choices, LouverDrape® perforated vinyl louvers are perhaps the most unique. Unique, because a transparent quality is achieved by actually perforating the solid vinyl. Thousands of tiny holes, are stamped into the louver creating these delicate patterns. From across the room, Vinyl Mist® patterns give the illusion of lace, while retaining the practicality and energy efficiency of solid vinyl.

It's hard to believe the beauty of Vinyl Mist® until it's installed. Even though the louvers remain 87% to 93% solid, the view through the closed louvers is amazingly clear. And you can enjoy that view while the room is protected from glare, sun and solar heat. In fact, Oyster Beige Vinyl Mist® louvers reflect as much as 65% of the solar radiation striking the window.

LouverDrape® Vinyl Mist® — a strikingly beautiful, reasonably-priced, low-maintenance window treatment. Protect your furniture and carpet from the sun without giving up that beautiful view.

ALWAYS INSIST ON LouverDrape® QUALITY

SEND FOR OUR FREE 36-PAGE FULL-COLOR BROCHURE

LouverDrape, INC. 1100 Colorado Ave. Dept. PAT Santa Monica, CA 90401
In airports: Carpets of Antron® perform with style.

When you step off a plane at Miami International Airport, you step onto carpet of Du Pont ANTRON®—50,000 sq. yds. of it!

Performance and styling are the reasons why ANTRON is used in more major airports than any other carpet fiber. ANTRON nylon is specifically engineered by Du Pont to handle heavy traffic. Unique fiber shapes hide soil and actually keep carpet of ANTRON cleaner longer.

Carpet of ANTRON resists crushing and matting—so suitcases on wheels, luggage racks and dollies leave it undaunted.

And only carpet of ANTRON can make your designs soar in so many styles, colors and textures. More than any other commercial carpet fiber.

At Miami International Airport—5 years and millions of passengers later—the carpet of ANTRON still looks beautiful.

No wonder Du Pont ANTRON is the most specified commercial carpet fiber in the country!

For a free copy of our new Specification Guide, write Du Pont Carpet Fibers, Rm. X-39830, Wilmington, DE 19898.

*Du Pont registered trademark. Du Pont makes fibers, not carpets.

DU PONT ANTRON®
AMERICA'S MOST SPECIFIED CARPET FIBER.

Circle No. 521 on Reader Service Card
This is Nevamar

Geometrix... the shapes of things to come. Byte-size Grid and Line dimensional laminates add subtle interest to solid color surfaces like the walls and furniture in this futuristic office setting. The actual size of the dimensional patterns are shown in the swatches above. Stocked in sixteen energetic colors programmed for today. Others available by special request. Make a sweeping design statement... with Geometrix. For samples, call 1-800-638-4380.

Nevamar Corporation, Odenton, Maryland 21113.

Circle No. 350 on Reader Service Card
Third World housing offers not only a fertile field for our technology and design skills, but also lessons applicable to our own public housing.

In Brazil, there's a saying that "When the government sleeps, the people move." That describes the actions not of criminals, but of many ordinary people in Third World countries, forced to secure their housing at night, squatting on land they don't own, in defiance of the law. The governments of those countries cannot be blamed entirely for that situation. With population rates in some countries four times that of the industrialized world, with squatter settlements built of scrap metal, canvas, and even cardboard sometimes larger than the cities they occupy, and with the number of people living at what the World Bank considers absolute poverty expected to increase by 26 percent over the next decade, government officials face almost insurmountable obstacles in providing public housing.

What public housing does get built is often high-rise, concrete slabs. That appeals to some Third World governments as a symbol of industrial development and progress, even though such housing is invariably too expensive for the poor, often ill-suited to the climate and culture, and technologically difficult for many countries. A 1972 study of government-built housing in developing countries underscored those failings. It showed that in the poorest countries, three-fourths of the total investment for housing goes into units for high-income families, one-fifth for middle-income families, and the remainder for the poor. A more recent Venezuelan study revealed that the poor living in one superblock had been forced by the government to move there from their squatter settlements; that despite government subsidies, most had to take in boarders to help pay rents two or three times what they could afford; and that, unaccustomed to high-rise living, the tenants had either destroyed or abandoned supposed amenities such as kitchens, toilets, and community rooms.

Self-help
Given our experience with high-rise public housing in this country, those findings come as no surprise. Unexpected, though, has been the response of housing advocates in the Third World, asking not, as we have in the U.S., how the government might build better public housing, but whether the government should build public housing at all. The work of John F.C. Turner in the 1960s first raised
Technics
Third World Housing

Taken from a survey conducted by Andrews and Phillips in Lima, Peru, squatter settlements, the chart (below) reveals that a concern with land tenure and essential services such as medical clinics, sewers, street lights, and water rank as much higher priorities than aid or credit for actually building shelter. This gives credence to the idea of sites and services.

Basic to the success of self-help housing is the allowance for incremental growth. A schematic drawing from a self-help project in Baroda, India (above), shows the typical stages of owner-built shelter, from the initial laying out of the property and squatting in temporary quarters to the completion of walls and roofs and the addition of floors.

that question. He and others that have followed him showed that the owner-built squatter settlements found in almost every Third World city, while inadequately serviced and often illegally located, met many of the housing needs of the poor: providing fairly large accommodations, easily adapted to the climate and culture, and easily altered as changes occurred in the lives of its inhabitants. As Turner put it, squatter settlements were a solution, not a problem.

In this country, prescriptive building and zoning codes present the greatest obstacles to owner-built or self-help housing. In the Third World (where performance codes too are needed), resistance to the idea of self-help housing has more of a political cast, with some governments opposed to it as a form of anarchism. In the face of that opposition, advocates of self-help housing themselves have begun to question some of its premises. For instance, while self-help initiatives enable poor people to learn construction skills in the course of building their own houses, training people in those skills has proven cumbersome and expensive. Also, not everyone wants those skills. Many Third World people, although underemployed, often have some sort of job and frequently prefer to hire contractors to handle needed construction. Perhaps, says Reinhard Goethert at MIT, "The right word is not self-help, but self-managed housing. It's a matter of teaching people not how to build, but how to deal with carpenters and masons—and government officials."

Another flaw with the idea of self-help housing is the assumption that people want to build their houses all at once. As Turner himself pointed out, not every poor family has housing as its highest priority. People will sometimes choose less desirable accommoda-
Some traditional building techniques that have been revived in the Third World include domed and vaulted masonry (above) and rammed earth construction (left). The rammed earth works best with about a 6 percent Portland cement content.

**Sites and services**

Incorporating the ideas of self-management and incremental growth is the idea of a government simply providing sites and services rather than materials and training for self-help housing. A sites and services project solves several problems. First, it gives squatters what they most want, land tenure. With that secure, even the poorest seem willing to invest in higher quality materials and construction. Second, installing utilities prior to the arrival of squatters reduces the difficulties of installing services after the fact, through the narrow streets and irregular layouts of squatter settlements. Third, sites and services projects give governments a more suitable role: providing legally platted land and a coordinated infrastructure.

The sites and services approach is not without its own problems, though. For a government to grant land tenure to squatters, it often has to abrogate the rights of landowners—an exercise of eminent domain not always politically feasible. To alleviate the land problem, architects such as Jorge Andreade in Mexico have built multistory concrete shells—unenclosed support structures whose bays define individual “sites,” with their own water and sewer hookups that families can enclose and
The success of the project lies in its lack of repetition. Each unit differs from the other in its disposition of spaces and in the variety of lighting effects obtained from various wall colors and door and window shapes.

Wood and steel are both expensive, imported materials in Mauritania. To lower costs, the architects have used compacted earthen bricks. For the construction of one- or two-story dwellings in a semidesert climate, the brick's resistance to compression is less important than its deterioration from sudden outbursts of heavy rain. As a consequence, available impermeable materials such as gum arabic, shea butter, or straw were initially added to the earth and water mixture. The results proved unsatisfactory, however, and the solution of stabilizing earth with a 6 percent admixture of cement has turned out to be far more successful. The main difficulty then was to find the right proportion of water: the less water, the more compact the brick; however, if the water is insufficient, the cement will not set. An excess of water will cause the brick either to stick to the mold of the manual or hydraulic press or to warp while it is transported to the drying area.

It is the roof, however, and not the walls that constitutes the major factor in the lowering of housing costs. Popular corrugated metal sheets were rejected from the start because of their conduction of both heat and cold. Wood beams, because of their foreign origin, were prohibitively expensive. The solution Esteve adopted, following examples of Northern African and Middle Eastern architecture, was a system based on domes and vaults. After the first experiments, it became obvious that the experience needed for building vaults of over two-meter span required a period of practice far longer than the few months provided. Also, careful placing of buttresses is crucial to this technique to prevent collapse during construction. Domes, having most of their weight transmitted vertically through the walls, were thus found safer and simpler to build. Going a step further after the construction of a prototype, Esteve came up with an innovative concept: a lowered shallow dome over a rectangular plan. The rectangular plan accommodates more easily both small and long, narrow spaces such as the kitchen, water closet, and arcades, which also can easily be covered with separate domes.

Initially, Esteve planned to build a limited number of dwellings (10 to 15) around an open, semipublic communal court with the intent of enjoining the participation of prospective residents in the construction of their dwellings. Such collective labor could ultimately lead to the neighborhood's self-determination in housing matters. Unfortunately, no long-term program for construction apprenticeship has been planned or is foreseen. Thus, instead of developing a continuous process in which one building team would pass its learning on to the next, the dozen or so masons trained during the building of the first 13 units are now hiring themselves out to individuals who can pay them. People from all over the country are now flocking to Satar to have a domed house constructed at low cost. The situation has become so frantic that the ADAUA, has been improved at all or simply delayed. The buildings in this project may appear, to the Western observer, lacking in sophistication. Experimentation with built-in furniture or wind towers, for example, has been limited, until now, by the high cost of cement. With the gradual replacement of cement by lime, prepared from the large quantity of sea shells in Mauritania, the cost of cement may be reduced. The problem that lingers on, however, concerns the use of compacted earth or adobe in construction, for the latter is still considered by builders to be second-class material. Whatever else this project accomplished, it made clear the need for a change of attitude toward local building resources if millions of shelters are to be constructed in the years to come, in the Western as well as in the non-Western world.

Jean-Paul Bourdier

Jean-Paul Bourdier is an Assistant Professor in the Department of Architecture at the University of California, Berkeley.
These views of Josep Esteve’s housing in Mauritania show how doors and windows individualize the units (top), how the domes create spacious interiors (middle), and how the units are organized around public and private courtyards (bottom).

improve themselves. However much land those multistory structures may save, they raise the questions of whether the typical Third World government can afford such large-scale structures and whether rural-oriented people want to live in multistory buildings, regardless of the amount of control they might have over their immediate living space. Says Nabeel Hamdi of MIT, “You can offer larger units and achieve densities as high or higher with low-rise housing—housing that’s also easier to build and more familiar to people.”

Another difficulty with sites and services schemes is with the services themselves. Water and sewer systems, for instance, cost too much and take too long to install for most Third World governments to keep up with the demand. Options exist, such as the incremental installation of utilities, with centrally located water and sewer connections preceding individual hookups, or the deployment of alternative technologies such as vacuum or chemical toilets or rain collection systems. Few Third World governments have pursued those options, not for lack of ideas, but for a lack of appropriate solutions.

Appropriate technology
What makes a technology appropriate? Opinions vary considerably. Some think that the only appropriate technology is one indigenous to a country—one that uses traditional construction methods, locally produced building materials, low-energy production techniques, and unskilled labor. The traditional masonry techniques employed by Hassan Fathy in Egypt, Josep Esteve in Mauritania, and Nader Khalili in Iran exemplify that approach. Their work holds great appeal in its very simplicity, be it the laying of sun-dried bricks into domes or the firing and glazing of bricks in situ. But its polemical intent is unmistakable. The rediscovery of indigenous technologies among many Third World countries represents as much a rejection of the homogenizing effect of Western culture and the wastefulness of modern technology as it does a solution to the housing problem.

The major argument against their work is whether any indigenous technology can satisfy the enormous demand for shelter in the Third World. As Jean Prouve has said,
Among architect Martin Pawley’s proposals for Third World housing is a tentlike structure (below) with walls of used tires supported by used metal cans and a roof of overlapping tire treads covering a net of tires. Nabeel Hamdi and Reinhard Geisler’s scheme for housing in Sri Lanka (opposite below) has clusters of unimproved, roofed sites, with the residents sharing water and sewer hook-ups adjacent to a communal open space. A community building and two-story shops face a commercial street. The housing in Trinidad (opposite top) was built by a U.S. company, Minnkota Building Systems, using glass-fiber-reinforced concrete tilt-up panels. While built at the rate of four houses a day for under $22 a square foot, the project didn’t generate much local industry.

“The population explosion is such that pseudotraditional construction, even when planned, cannot produce enough housing.”

Appropriate technology, say others, is intermediate technology—one less handcrafted than traditional technologies, yet less energy and resource intensive than most advanced Western technology. Much of the intermediate technology developed to date uses indigenous materials in ways that allow their prefabrication. Much of the research has occurred within universities. At the Asian Institute of Technology, for instance, researchers have found ways of using notched bamboo splits to reinforce concrete and bamboo pulp or wood wool combined with Portland cement as a binder to make corrugated roofing sheets.

A less common form of intermediate technology uses waste materials from developed nations rather than indigenous materials. Examples of that include the work of Iraj Majzub at Florida International University, laminating waste newsprint and other cellulose fiber to produce corrugated boards, or the work of Gernot Minke at the Gesamthochschule Kassel in West Germany, consol-

idating waste sulphur from the textile industry, in combination with slag, sawdust, and a sand/gravel aggregate, to produce low-cost building blocks. Taking that approach to its logical—and what some consider its absurd—extreme is the English architect Martin Pawley. He suggests that we export not just raw material, but actual waste products to the Third World for their housing. While the use of discarded materials is certainly common in squatter settlements, the use of imported waste has the pejorative connotation of the developed world feeding the undeveloped its scraps.

Most of the advanced technology exported to Third World countries involves the processing of essential raw materials such as cement or the production of simple building components such as corrugated metal panels. Occasionally, whole building systems are used.

Most Third World governments, in importing building technology from the West, hope to gain not just new housing, but permanent industry and trained people. Unfortunately, advanced technology is not quickly or easily absorbed by undeveloped countries. As Jane Jacobs wrote recently, efforts among poor nations “to attract transplanted factories from elsewhere . . . (or) to build up major industrial facilities . . . work miserably. Just such industrial programs and projects, for example, are largely responsible for the vast, unpayable debts with which Brazil and Mexico (and their foreign bankers) now struggle.”

The architect’s role
A certain humility colors the discussions of Third World housing today. Many of its architects now speak of appropriate technology as any technology suited to a particular need: advanced technology from the West as well as indigenous and intermediate technologies. They emphasize the implementation of existing prototypes over the development of new ones. And they seem less concerned with how people build than with how they decide what to build. In the words of Nabeel Hamdi, “We want to show people what their options are, to point out key questions that must be answered, and to establish housing guidelines that don’t necessarily determine the solution.”

That attitude differs from the advocacy planning of 20 years ago in, among other things, its view of the architect’s role. Less involved directly in the design and construction of housing, the architect now acts as facilitator, a person who works within political and financial channels to, in the words of MIT Professor Eric Dluhosch, “get things going, to help people get into the moneyed economy and become self-sustaining.”

The loan crisis facing some of the larger Third World countries has dampened the market there for architects with housing expertise. The long-range prognosis for work, however, appears strong, considering the
enormous demand. With an oversupply of architects in the United States, the idea of exporting that expertise (either bodily or through telecommunications) to the Third World holds an economic as well as altruistic appeal.

**Lessons for the West**

What might we, in the West, learn from efforts to house the Third World’s poor? It’s probably a mistake to apply its methods literally to our own public housing. The idea of providing the poor in this country with a plot of land and some building materials would create only social unrest. The broader principles, however, of inviting tenant participation in the planning and management of their housing, of providing units that have a loose fit between their form and function to allow a certain amount of incremental change by tenants, and of encouraging ownership and a sense of community have much relevance to public housing in this country. Also, sorting out what is and is not an appropriate role for the government is something that needs the kind of attention in this country that it has received, out of sheer economic necessity, in undeveloped countries. At a time when our government seems to want to retreat from the very idea of public housing, we should realize that public housing need not mean the provision of complete units—nor should it mean letting the poor fend for themselves. As Turner has written, “Our policies of mass housing are very costly ways of impoverishing people.”

What the housing efforts in the Third World show is that there are less costly ways of enriching the lives of poor people. [Thomas Fisher]

**Further reading**

There is extensive literature on Third World housing. The classic on self-help housing is *Freedom To Build*, edited by John F.C. Turner and Robert Fichter (MacMillan), although the more recent *Urban Housing in the Third World* by Geoffrey Payne (Routledge & Kegan Paul) and *People and Housing in Third World Cities* by D.J. Dwyer (Longman) are also worth reading. A thorough review of building with adobe and rammed earth is *Adobe and Rammed Earth Buildings, Design and Construction* by Paul Graham McHenry, Jr. (John Wiley). The best critique of self-help housing is *Self-Help Housing, A Critique*, edited by Peter Ward (Mansell).

**Acknowledgments**

We would like to thank the following people for contributing to this article: Iraj Majzub, Florida International University; Naheel Hamdi, Reinhard Gethert, Eric Dluhosch, William Porter, Moustofa Mourad, Mona Serageldin, MIT; Fred Winker, Lee Kalzenberg, Minnkota Building Systems; Volker Hartkopf, Carnegie-Mellon; Richard Yates, Architect; Udo Kufertman, Washington University; Jean-Paul Bourdier, U.C. Berkeley.
Illustrated with over 700 photographs and line drawings, The Landscape of Man is an essential text and reference for students and professional landscape architects, architects, planners and designers.

Progressive Architecture

1 The Landscape of Man
By Geoffrey and Susan Jellicoe
363 pp., illus...$19.95
Softcover
For twenty-six different cultures the authors summarize the social and intellectual background, describing how it was expressed in terms of landscape. This history of landscape architecture and the progress of landscape design are thoroughly and intelligently discussed. History, philosophy and religion are consulted in order to explain fully "the landscape of man".
Circle B601 under Books.

2 Computers in the Architectural Office
By Natalie Lang Leighton
192 pp., illus...$26.50
Gives you practical, A-to-Z know-how on using computers in an architectural practice. It spells out the details for acquiring, operating and maintaining an in-house computer system as well as provides low-cost, low-risk methods for familiarizing yourself with computers before buying a system.
Circle B602 under Books.

3 Structural Systems
By Henry J. Cowan and Forrest Wilson
256 pp., illus...$16.95
This is a comprehensive guide to preliminary structural design using a minimum of mathematics and numerous illustrations to describe structural forms and their mathematics. It has a strong emphasis on graphic presentation and is an instant-access reference to structural design. Full consideration is given to the internal and external forces that a building must withstand, and the interaction of structural and environmental design.
Circle B603 under Books.

4 Architecture: Form, Space and Order
By Francis D.K. Ching
294 pp., illus...$22.50
Written to foster understanding of design concepts, this rich source of architectural prototype demonstrates how to extract the fundamental principles of form and space from the environment, whether in the architectural one views or inhabits, in architectural visualization, in drawing, or in actual design.
Circle B604 under Books.

5 Affordable Houses Designed by Architects
Edited by Jeremy Robinson
168 pp., illus...$34.95
This lavishly illustrated volume shatters the myth that architect-designed houses are more costly than developer-built houses. The superb photographs, floor plans, drawings, and details of interiors and exteriors present a wealth of ideas on how to construct beautiful and unique houses within limited budgets.
Circle B605 under Books.

6 Earth-Sheltered Habitat History, Architecture and Urban Design
By Gideon S. Golany, Ph.D.
240 pp., illus...$21.95
This book explains the energy-saving advantages that earth-enveloped shelters offer for heating or cooling, weather-proofing, comfort, benefit of lower land and maintenance cost, durability, privacy and maintenance safeguards against noise, strong wind, and pollution. It discusses all types of potential land uses below ground.
Circle B606 under Books.

7 Design and Planning of Swimming Pools
By John Dawes
276 pp., illus...$52.50
A comprehensive manual that describes the essential characteristics and consequent design requirements of every type of pool imaginable. Also deals in great detail with more technical matters, such as structural problems and how to solve them, finishes, filtration, circulation and water treatment, heating and ventilating.
Circle B607 under Books.

8 Architectural Rendering: The Techniques of Contemporary Presentation
By Albert O. Halse
326 pp., illus., 2nd edition, 1972...$59.50
This completely up-dated revision of the most widely used guide to architectural rendering covers all working phases from pencil strokes to finished product and shows how to obtain the desired mood, perspective, light and color effects, select proper equipment and work in different media.
Circle B608 under Books.

9 Cities For People
By Ronald Wiedenhoef
224 pp., illus...$24.95
This book is a thoughtful analysis of the dehumanization of cities and the urban blight that results. It demonstrates how we can reverse this trend, making cities more responsive to human needs and improving their economic viability. It offers a number of economically sound steps that have proven effective in revitalizing cities all over the world.
Circle B609 under Books.

10 The Decorated Diagram, Harvard Architecture & the Failure of the Bauhaus Legacy
by Klaus Herdeg
128 pp., illus...$22.50
Deals with Gropius's pervasive influence from the late 1930s to the early 1950s as head of the Harvard Graduate School of Design. Criticism of the school and the curriculum under Gropius and his formal analysis of the work of its most illustrious graduates. Shows that they have all failed to move beyond Gropius's indoctrination and the Bauhaus legacy.
Circle B610 under Books.

Each book has been selected for its usefulness to you in your professional practice. Prices slightly higher in Canada. Foreign orders must be accompanied by payment. It is not necessary to send payment with the order. Circle appropriate numbers on the Reader Service Cards in the back of this issue, add your name and address and mail. Local sales tax must be included with payment. Prices subject to change. For faster service, send the card in an envelope to:

Marie Patrignelli
Progressive Architecture
600 Summer Street
PO Box 1361
Stamford, Ct. 06904

P/A Back issues
A limited supply of the following issues of P/A are available at $7.00 per Copy. Check MUST accompany order!

Connecticut Residents Add 7 1/2% Sales Tax.

June 1979 Graves library/Moss house/Bofill gardens
May 1980 Computers in architecture/Furniture awards
April 1981 Energy and design/Four houses/Dallas Museum of Art
March 1982 Vienna/Gehry/Preckosc/Presons
February 1983 Special issue: Johnson and Burgee/Museum lighting
January 1984 31st annual P/A Awards
December 1984 Gwathmey Siegel house/Arthur Brown, Jr./Acrylic stucco
11 Historic Preservation: Curatorial Management of the Built World
By James Marston Fitch
433 pp, illus... $37.95
This book thoroughly covers historic preservation—it includes full chapters on the economic sense of retrieval and recycling, regeneration of historic urban cores, cosmetic consequences of intervention, quantification, analysis, and classification. Sections on historic preservation in socialist and third-world countries are included.
Circle B611 under Books.

By Harry Siegel and Alan Siegel
192 pp, illus... $22.50
This book is thoroughly updated to reflect current practices and procedures of operating a business. It discusses how to establish an interior design practice, how to carry through the development of ideas. How to greatly expand knowledge of a subject beyond what is gained through observation of verbal representation alone.
Circle B612 under Books.

NEW* 13 Sourcebook of Architectural Ornament
By Brent C. Brolin and Jean Richards
288 pp, illus... $19.95
This reference book contains an invaluable list of over 1200 craftsmen, designers, manufacturers and distributors of exterior architectural ornament in the U.S., representing twenty wide-ranging categories. People and companies listed can do contemporary as well as traditional ornament. Each category of ornament is featured in a chapter.
Circle B613 under Books.

14 Architectural Illustration: The Value Delineation Process
By Paul Stevenson Oles
288 pp, illus... $37.95
In this copiously illustrated, clearly organized explanation of his value delineation system, the author presents a detailed description of the process which has resulted in these award-winning delineations that show realistically how a designed structure will shine in through sensitive design. The "solar envelope" concept is explained. Graphic techniques are presented that enable architects and urban planners to derive solar envelopes for their own projects.
Circle B614 under Books.

15 Sun Rhythm Form
By Ralph L. Knowles
280 pp, illus... $29.95
This book is concerned with the total solar environment and ways that architects and planners can let more sunshine in through sensitive design. The "solar envelope" concept is explained. Graphic techniques are presented that enable architects and urban planners to derive solar envelopes for their own projects.
Circle B615 under Books.

16 The Design Connection
Edited by Ralph W. Crump and Martin J. Hamlin
184 pp, illus... $32.50
This book probes the relationship of formal architectural design to building technology and human values. Location, climatic, cultural, and historical viewpoints are all considered in depth. It bridges the gap between architectural theory and practice.
Circle B616 under Books.

17 Man, Climate & Architecture
By B. Givoni
450 pp, illus... $14.95
This book deals with the physiological, physical and architectural aspects of the relationship and interaction between these three elements to interior and exterior building design. It is divided into five parts, including climatic elements and solar radiation on building design.
Circle B617 under Books.

18 Design Cost Analysis for Architects & Engineers
By Herbert Swiburne
317 pp, illus... $27.50
This first-of-its-kind book shows architects and engineers how to analyze and estimate the costs of building construction during the design stage when the potential for controlling costs is greatest.
Circle B618 under Books.

19 Visual Notes for Architects & Designers
By Norman Crowe & Paul Laseau
280 pp, illus... $39.50
This book shows how to make rapid, no-torial sketches that serve as visual records for future reference, improve understanding and facilitate the development of ideas. How to greatly expand knowledge of a subject beyond what is gained through observation or verbal representation alone.
Circle B619 under Books.

20 Architectural Delineation, A Photographic Approach to Presentation
By Ernest Burden
280 pp, illus... $39.50
This book summarizes the author's innovative method for using photographic techniques in delineation. He discusses a valuable new application of the photo-layout technique. Rendering projects shown in the original edition have been replaced by up-to-date projects and 16 pages of full color projects have been added.
Circle B620 under Books.

21 The Architecture of Frank Lloyd Wright: A Complete Catalog
Second Edition
By William Allin Storrer
483 pp, illus... $22.50
This book is concerned with the total solar environment and ways that architects and planners can let more sunshine in through sensitive design. The "solar envelope" concept is explained. Graphic techniques are presented that enable architects and urban planners to derive solar envelopes for their own projects.
Circle B621 under Books.

22 Earth Sheltered Housing: Code, Zoning, and Financing Issues
By Underground Space Center, University of Minnesota
143 pp, illus... $14.95
This book is concerned with the total solar environment and ways that architects and planners can let more sunshine in through sensitive design. The "solar envelope" concept is explained. Graphic techniques are presented that enable architects and urban planners to derive solar envelopes for their own projects.
Circle B622 under Books.

23 The Sense of Place
By Fritz Steele
240 pp, illus... $21.50
This book deals with the physiological, physical and architectural aspects of the relationship and interaction between these three elements to interior and exterior building design. It is divided into five parts, including climatic elements and solar radiation on building design.
Circle B623 under Books.

24 Rendering With Pen and Ink
By Robert W. Gith
368 pp, illus... $14.95
This book is a copiously illustrated guide to the techniques and methods of rendering, including sections on perspective, projection, shadow, reflections, and how to draw cars, ships, aircraft, trees, and human figures. The author also describes the very wide range of instruments and equipment currently in use.
Circle B624 under Books.

25 New Techniques of Architectural Rendering
By Helmut Jacoby
167 pp, illus... $24.95
This book contains a broad, international selection of architectural drawings that represent the most outstanding modern contributions to the field. By Helmut Jacoby
200 pp, illus... $44.50
This Handbook illustrates and examines the full range of architectural details currently used for commercial buildings. Part I features plans, elevations, and sections for office buildings, banks, retail stores, theaters, and more. Part II concentrates on architectural details. Practicability and realism are stressed.
Circle B625 under Books.
Architectural
Computer
Software
Architectural Computer Software

An affordable, completely integrated, computerized project management system for architects and engineers available on the Apple II/III and IBM PC/XT computers. System includes Job Cost, Payroll, Accounts Receivable, Accounts Payable, General Ledger.

Architectural Computer Software
P.O. Box 4811, Santa Barbara, CA 93103 (805) 962-4962

Circle No. 372 on Reader Service Card

NOW AVAILABLE...
A fast, effective, but inexpensive method of meeting your ever-changing need for financial knowledge. All of these courses are written in a programmed learning format, enabling you to learn at your own pace, in the privacy of your office or home.

Managerial Accounting for Non-Financial Managers—Item #X36—You'll learn to properly record business transactions and how to prepare financial statements. You'll learn to prepare all year-end reports. When you've finished this course, you'll understand better the role of accounting and how to use the information accounting gives you. Two volumes... $25.00

Also...

Fundamentals of Budgeting—Item #X15—This course is for the non-accountant manager who wants to know how to use budgets more effectively. $16.00

How to Read a Financial Report—Item #X29—This course will introduce you to the accounting process, tracing the steps from the actual sale to the appearance of the transaction on the financial statement. $18.00

Fundamentals of Cost Control—Item #X30—You may never design a cost control system, but you must know what cost control is, how to use it, and how to make the best decisions based on the facts your cost control system gives you. $16.00

How to Make Business Investment Decisions—Item #X36—This course covers: Present-value concepts, how to use compound interest tables and equations to calculate the time value of money and how to use these computed values to make the best economic decisions. $16.00

The complete Financial Planning Series is offered at a special savings—Item #S08— (an $89.00 value) for $79.00

To order, complete the coupon below and mail to:

Penton / IPC Education Division
Penton Plaza
1111 Chester Avenue, Cleveland, Ohio 44114
Phone: 216/696-7000

Please send the courses indicated. I understand that I may review them for 15 days and, if not completely satisfied, may return them for full credit or refund.

Item No. X38 X15 X29 X30 X36 S08

Quantity

□ Payment enclosed for postage-free shipment in U.S. & Canada.
□ Bill my company, including shipping and handling charges.
P.O. # enclosed.
Charge my: □ MasterCard □ Visa □ American Express
Account No. Exp. Date

Name
Title
Company
Address (not P.O. Box)
City State Zip

Mail to: Armco Building Systems, Inc., Dept. MB-664 (7), P.O. Box 2010, Cathedral Station, Boston, MA 02118

Affix your business card here or fill in the coupon below for your FREE copy.

New design ideas. FREE.

Learn how our new Armco® Hardwall Building System allows you to combine our unique flat profile weather-tight roof with good-looking masonry, tilt-up or precast walls. It's functional. It's flexible. It's beautiful. And it's all in our new brochure, "The Affordable Armco Building System."

Circle No. 373 on Reader Service Card

112 Progressive Architecture 7.84
Outstanding American architecture, notable for structural and energy strategies as well as formal excellence, is represented by the design features in this issue:

The Pingry School in New Jersey, by Hardy Holzman Pfeiffer Associates carries forward the firm's well-known daring with form and materials, in a scheme that makes eminent good sense for an educational plant.

Charleston Place, a housing development in Florida, forms a pleasing community with simplified but evocative Classical architecture, deftly worked out by architects Andres Duany and Elizabeth Plater-Zyberk.

Enerplex, an office complex in Princeton, New Jersey, combines an experimental program of energy devices with superior architectural design. The team of architects includes Skidmore Owings & Merrill, New York, and Alan Chimacoff of Princeton.

Carver-Hawkeye Arena at Iowa State University, by CRS of Houston, Texas, is spanned by an elegantly spare exposed steel space-frame, set over a natural depression to produce a low profile for a vast space.

Interior Design: An office lobby on LaSalle Street, Chicago, has been remodeled with Classical motifs in marble, by Hammond Beeby Babka, Architects.

Technics: Replacement windows will be the subject of an article covering the available products, installation, and design appropriateness of these crucial components of the remodeling/renovation process.

P/A in September will be an expanded issue to accommodate P/A's eighth annual survey of interior design. Examples from many places will shed light on the relationships between interior design and the worlds of commerce and the other arts. A related Technics feature will deal with the subject of toxic fumes in fires.

An exhibition for those interested in ceramics for the building industry.

Sectors
- Ceramic tiles
- Sanitary installations
- Bathroom furnishing
- Fixtures materials and showroom displays for ceramic products
- Raw materials, semifinished products, equipment for ceramics
- Testing equipment

Cersaie
INTERNATIONAL EXHIBITION OF CERAMIC FOR THE BUILDING INDUSTRY
2-7 October 1984 - Bologna Fairgrounds

Information:
Press office: EDI.CER.
Viale San Giorgio, 2
41049 Sassuolo (Modena)
Tel. (0536) 882281 - Tx 511050

The Secretary: CERSAIE
P.O. Box 103
40050 Funo Centergross - Bologna
Tel. (051) 850048-850041
Tx 213499 CERBO I

Circle No. 316 on Reader Service Card
TCS
creative response in beauty and durability

Surrounded by cropland on the outskirts of a farming community, this private residence is, as stated by the architect, "a response to the historical and physical characteristics of its site. Its sloped roof areas are covered with silver gray TCS (terne-coated stainless steel), suggesting the color and form of traditional rural architecture."

In addition, TCS satisfied the owner's stated need for, "a maintenance-free roofing material that will last several lifetimes."

Architects everywhere are finding that TCS is singularly adaptive to all types of structures, superbly functional as a design component—important advantages which provide maximum creative latitude at relatively modest cost.

We will be happy to send you more detailed information about TCS. Call us toll-free, 800-624-6906.

Lee Residence, Northeast Arkansas
Architect: Polk, Stanley, Gray, Architects, Ltd.
Little Rock, Arkansas
Roof: Gerald Rogers Contractor
McCrory, Arkansas
Photographer: Hursley & Lark

FOLLANSBEE
FOLLANSBEE STEEL CORPORATION
FOLLANSBEE, WEST VIRGINIA

Circle No. 329 on Reader Service Card
Italian’s America

The American City, originally published in 1980 and recently released in paperback, is a complex, articulate, and provoking political text, which traces the ideological forces of American civic planning at the turn of the century. It is complex because, being of four parts, it identifies particular movements of often contradictory natures which, in their resolution, formed early urban America. It is articulate in being much more than a historical survey: its intentionally critical stance on the social and economic developments distinct to the new world brings to light persons and philosophies that forged the tenuous yet tenacious emerging urban culture. Most important, each of the four studies that comprise the text approach the basic subject of dialectical history from a clearly Socialist point of view.

The first study addresses the City Beautiful movement as it unfolded under the formal direction of Daniel H. Burnham of Chicago. The second act as a countercritique in its review of progressivist landscape planning, particularly the movement to reform the city through the implantation of parks and public places. The third reinforces the Reformist movement in its critique of Frank Lloyd Wright’s philosophy of individualism and the push for the demographic decentralization of cities. However, Wright’s views of individualism and the subsequent movement encouraging rural colonization are viewed as utopian in comparison with the practical motives of the urban social reformer. In the final study the concentration of capital, epitomized in the high-rise building, is critiqued as an ultimate expression of corporate power. Rockefeller Center within the setting of New York is central to this last study, which, much like the first, focuses on Imperialist tendencies in planning as compared to Socialist incentives as identified in the intermediate studies.

Numerous questions arise perusing the text. Is this book partial in its review of American urbanism? Its authors are openly of a Marxist view, and critical of the capitalist speculation that was so much a part of early American planning. The urban poor from a proletarian point of view. Unraveling these relationships makes at times most difficult reading, yet the characters who partake in these struggles are often overlooked in other histories.

To what degree the Marxist view of history applicable to 19th-Century American planning developments is debatable. By the sheer preoccupation with ideologies, this method does successfully trace the multitude of ideals and the philosophies that characterize America as a compelling milieu of open opportunities. What is most fascinating about the book is its circumspect glance at the various forms unique to American ideology in its philosophic inspiration both to conquer and to tame the American wilderness. From early American fiction the fatal pursuit of the White Whale by the sailors of the Pequod exemplify to the authors a progressive and somewhat blind spirit to restructure the superiority of nature, ultimately through work. In the second essay, Dal Co feels it is not possible to speak of American progressivism in terms of a philosophical system. Instead, he sees it as an attitude, primarily intellectual and moral rather than political. He intentionally focuses on forms and functions that express this attitude, in a grave but optimistic concern about contemporary society. While the forms are primarily philosophic and literary, the functioning is clearly to subvert bourgeois society from an elitist standpoint in the name of social change through the class struggle.

As such, this book is as much about the persons and ideas that helped forge the urban place out of the wilderness as it is about the physical making of cities in America. Invariably tainted with Socialist rigor, one cannot help but respond with a great degree of circumspection as to the basic motives of these four. How their Marxian critique applies to the emergence of early America remains a question, and nowhere in this voluminous tome is the answer given.

Richard J. Findlrey is an assistant professor at Kansas State University, Manhattan.
"18 years' service and still counting. That's the performance record of single-ply roofing of Hypalon."

—John Breitenstein, DuPont

"Single-ply roofing membranes of DuPont HYPALON synthetic rubber have been weathering everything under the sun for the past 18 years," says John Breitenstein, Programs Manager. "That's because HYPALON is a high-performance rubber with durability benefits that meet the most demanding roof requirements."

A single-ply membrane of HYPALON is installed quickly and easily. Since it is thermoplastic when put down, seams are as strong and reliable as the membrane. The membrane gradually cures in place to produce an integral, tough, strong elastomeric roofing surface.

Roofing membranes of HYPALON also offer:
- Reflective white color for energy efficiency.
- Resistance to flame propagation.
- Excellent resistance to oils, chemicals and pollutants.
- Excellent resistance to ozone and UV rays.
- Serviceability over a temperature range from -40°C (-40°F) to 93°C (200°F).
- Colorability for a range of aesthetic designs.

Specify HYPALON—made only by DuPont—for durable, low-maintenance roofing membranes. Call toll free, 800-441-7111, ext. 45, for further information. Or for free literature, write: DuPont Company, Room X-40097, Wilmington, DE 19898.

*DuPont manufactures HYPALON, not single-ply roofing membranes or systems.
WE'Re HELPING TO PRESERVE LIBERTY.

America's proudest symbol will soon be free from the threat of structural failure. After almost 100 years of exposure to the elements, the Statue of Liberty Enlightening the World was in a serious state of disrepair. It's now being restored. And when the task is completed, the CalComp computer-aided design system will have played a significant role.

The exhaustive work of the French-American Committee for Restoration of the Statue of Liberty, Inc. proceeds under consultation from the prestigious New York firm of Swanke Hayden Connell Architects.

The computer graphics system the architects depend on is CalComp. By generating a dimensional drawing of Liberty's complex internal grid structure on the CalComp screen, architects have been able to focus on a number of problems. A variety of colors provide the depth and dimension to allow Swanke's planners to quickly highlight problem areas, study stress points, and clearly examine element relationships.

The CalComp system is just one member of a computer graphics line that's unparalleled in the industry. Superior CalComp equipment draws on the same broad base of technology that's made Sanders the leading name in defense electronics.

Now, the company known for building systems for our nation's defense has a system that's helping defend our nation's heritage.

For more information, write to CalComp, Inc., 2411 West LaPalma Avenue, Anaheim, CA 92803. Or call toll-free 1-800-556-1234. In California, call 1-800-441-2345. Ask for Extension 156.

CALCOMP
A Sanders Company

Circle No. 358 on Reader Service Card
introduces the "Pelican" Series

An all-fabric-covered wood office furniture system in 12 colors—using stainless steel and glass—for desk, credenza, conference table, occasional tables, high cabinet, seating and upholstered pieces.

designed by Charles W. Pelly

"Pelican" Desk
**P/A Products and literature**

**Technical lamp** 395TL for desk or drafting table can be attached to horizontal, angled, or vertical surfaces without losing tension. Handle and on/off switch are located away from the heat flow. It uses a 90-watt incandescent bulb and a 22-watt cool white lamp.

**The Float side chair** has a steel tubing frame with a chromium or powder epoxy color finish. It is upholstered in vinyl, fabric, or leather. Float stacks for convenient storage. Group Four Furniture, Inc.

**The Soft Bathtub**® is molded with an inch of foam cushioning bonded to a fiberglass outer shell having a nonporous surface said to be as durable as porcelain. It is upholstered in vinyl, fabric, or leather. Float stacks for convenient storage. Group Four Furniture, Inc.

**Target Tile** studded resilient rubber floor tile, stair treads, and risers are offered in two new colors, burgundy and slate. Suitable for entrances, lobbies, schools, hospitals, and commercial buildings, the flooring has a Class A flame spread rating, according to the ASTM E-84 test. Other colors available are red, brown, beige, black, blue, chocolate, and gray. The R.C.A. Rubber Company.

**The Soft Bathtub Company, Division** of SBC Technologies, Inc.

**Circle 102 on reader service card**

**The Seiche One water-saving toilet** uses approximately one quart of water for the operator-controlled flush. It was designed for use in areas where ground water is scarce or leaching capacity is limited. It fits any standard system, and installation is simple. The lightweight unit is made from Monsanto's Lustran 24 ABS plastic. Patrick Creek Corp.

**Circle 107 on reader service card**

**Using a ductless fan** for bathrooms to filter and recirculate air reduces costs by eliminating exhaust fans, ductwork, and outside venting. A high-density foam pretreats the air, which is then circulated through a filter to be cleaned and deodorized. One unit is effective in an area up to 800 cubic feet. Replaceable filters are changed in three to nine months, depending on the hours per day of use. Rush-Hampton Industries, Inc.

**Circle 108 on reader service card**

**Plytube molded tubular plywood** is available in lengths to eight feet. It is nonconductive, noncorrosive, waterproof, lightweight, and easy to cut. Plytube is bonded under heat and high pressure; for special purposes, one or two wood plies can be replaced with metal, wire mesh, or synthetic laminates. Tubes can be used as molds for concrete piers, columns, and curved structures. They can be finished and used in building interiors as lally columns, exposed ducts, and similar applications. Plytube Corporation of America.

**Circle 109 on reader service card**

**European furniture** in a variety of traditional styles features hard-to-find pieces in wood with hand-rubbed finishes, inlays, carving, bronze appliques, fabrics, and leather. The group includes chairs, tables, desks, secretaries, chests, and bookcases. Among items offered are this Regency-style chair, in light mahogany and ebony with leather upholstery, and a fruitwood and black pedestal with gray marble urn. IPS, Inc.

**Circle 112 on reader service card**

**Progressive Architecture 7:84**

121
How aluminum keeps down the cost of keeping up the Devonshire.

Savings start with the Devonshire building's 230,000 square feet of low-maintenance aluminum exterior panels that make it a standout on Boston's skyline. They're coated with a new fluoropolymer finish in a shade of gray that matches across the entire facade.

Savings continue with 7,000 thermalized aluminum windows that reduce the likelihood of condensation, and reduce heating and cooling costs.

Exterior balconies on the 36 residential floors that rise above the seven commercial floors of the Devonshire have sliding access doors and railings of aluminum for its durable and attractive finish with a minimum of maintenance.

Aluminum gives architects other opportunities to build-in operational and maintenance economies. For example, aluminum modular flooring systems to reduce the cost and disruption of installing and changing underfloor wiring and conduit. Aluminum ceiling systems for a rich choice of colors, styles and finishes as well as easy access to overhead lighting and wiring. Even aluminum-louver solar control systems on windows to help control heat gain and reduce costs of cooling.


People Protectors shelters for transportation stops, recreation parks, and other outdoor areas provide protection from the weather. Shelters have all-welded construction, concealed drainage, and structural steel columns with a urethane coating for corrosion-free life. Custom lettering can be added to provide community or corporate identity. Metalcraft Systems.

Circle 113 on reader service card

Partitions, cubicles, and lockers with panels cast of textured tempered glass are virtually maintenance free. The surface resists scratches and abrasion; it is difficult to write on, and marks are easily removed. If cleaning is needed, the panels can be washed or hosed down. Since they do not rust or corrode, they require no refinishing. There are 20 standard colors as well as bronze, gray, and black spandrel glass. They are suitable for schools, laboratories, hospitals, and public areas. W & W Glass Products Ltd.

Circle 115 on reader service card

Tapered Styrofoam® SM insulation provides slope to new or existing roof decks to help eliminate the damage caused by ponding water. The 2' x 8' boards, available in a variety of thicknesses starting at 1/2", offer options in slope design. One-inch-thick Styrofoam provides an R-value of 5.41 at a mean temperature of 40 F. Boards are labeled with row letter and slope arrow to speed installation. Dow Chemical USA, Styrofoam Products Dept.

Circle 116 on reader service card

InsulLouvers with an R-value of 9.1 reduce conductive heat loss by a factor of 10 when used over single glazing. They are constructed of birch and basswood combined with foil-faced polysiocyanurate insulation. Mylar brush-fin seals and tubular rubber closure seals stop heat transfer. Interior surfaces can be painted, stained, or left natural. Suitable for clerestories, greenhouses, skylights, and windows, they are assembled in hardwood frames and can be installed in any position from full horizontal to full vertical. InsulShutter.

Circle 117 on reader service card

SPECIFY BILCO for client satisfaction

When you specify roof scuttles, floor and pit doors, automatic fire vents—any type of horizontal door—look to the leader. Every Bilco product gives you the design, the quality, the workmanship, and the operation that assures long service and complete satisfaction.

For full information, details and specifications, send for this catalog or see us in Sweet's.®

Circle No. 312 on Reader Service Card

Roof cooling by spraying the surface with water lowers the temperature in an unair-conditioned building by 10–12 percent. According to the manufacturer, it reduces electrical costs by 25 percent by reducing air-conditioning loads. The system consists of a series of copper pipes with sprayheads that intermittently spray the roof with just enough water to wet the surface; evaporation lowers the surface temperature and heat transfer into the building. Spray cooling also prolongs roof life by reducing thermal stress. Sprinkool Systems, Inc.

Circle 118 on reader service card

Tempered glass entry doors, sidelights, and transoms are provided with four types of fittings made from aluminum, bronze, brass-clad aluminum, or stainless-steel-clad aluminum. The aluminum fittings can be anodized or electrocoat finished in any available color. Descriptions and illustrations of doors and fittings, and detail drawings are included in a 12-page color brochure, along with specifications and ordering information. Brite Vue Glass Systems, Inc.

Circle 200 on reader service card

Circle No. 346 on Reader Service Card

Wallcoverings of natural fibers include wovens, textures, coarse weaves, and warp lays. All have a Class A rating according to the ASTM E-84 flamespread test. Hamilton Adams Imports, Ltd.

Circle 117 on reader service card
Leggio halogen wall lamp, a Centro Stilnovo design, is made of lacquered metal in white, black, or light blue. It has a reflector with built-in dimmer and uses one 300-500-watt halogen tube. It is also available in a floor lamp version. Thunder & Light.

Circle 119 on reader service card

The Pulse™ furnace, a gas, forced-air system, is said to perform with up to 97 percent efficiency. It operates by igniting a small quantity of gas and air at a rate of 60 to 70 times per second. A heat exchanger extracts 200-350 degrees more heat than conventional gas furnaces. It will operate on natural, butane, or propane gas. Lennox Industries.

Circle 120 on reader service card

Flexel roll-out carbon heating element produces radiant ceiling heat in residential, school, and light commercial construction. The element is encapsulated in plastic, the edges of which are stapled to ceiling joists. It is backed with thermal insulation and placed in contact with the gypsum board ceiling. The ceiling becomes a radiant surface with a temperature between 90 and 110 F. Aztech International Ltd.

Circle 121 on reader service card

Photomurals in 3½' x 4½' panels, shown in a full-color brochure, are carefully matched for uniform color. The murals are lithographed on triple laminated polypropylene that will not tear or stretch when wet. They can be trimmed to fit most walls and are completely dry-strippable. They have a flame rating of 6.64-O-16.67 according to ASTM E84-81A, meeting requirements for institutional application. They are washable and resistant to stains, grease, and mildew. Naturescapes, Inc.

Circle 201 on reader service card

Outdoor cooling is effected by means of misting treated, filtered water. The water is pumped through PVC tubing attached to walls and roofs and is expelled in a mist through nozzles spaced at intervals in the tubing. As the water evaporates in the heat, the air is cooled. The system is explained in a four-page brochure. MicroMist Outdoor Cooling Systems, Inc.

Circle 202 on reader service card

Commercial hardware brochure includes door levers and knobs of solid brass with polished, dull, oil-rubbed bronze, or chromium finish; push/pull plates of brass, bronze, aluminum, stainless steel or plastic; and brass bumpers, door stops, hinges, and bolts. A lever handle featured meets dimensional and performance specifications of ANSI 117.1-1980 for accessibility by the handicapped. Baldwin Hardware Manufacturing Corp.

Circle 203 on reader service card

New Aperture Card Processor Cameras Designed To Meet MIL-9868D at 150 Cards/Hour!

Every Feature Needed For Engineering Documentation Now All In One Camera.

Technology built into Extek's complete line of engineering cameras makes other processor cameras obsolete! For example, a unique density control system allows you to pre-set any density you want, and the camera automatically gives you that precise density—card after card. Standard features include automatic focus and exposure controls, reductions from 8x-36x, automatic alignment bar, vacuum hold-down, independently adjustable top and back lights, blowback, and printing capabilities. For more information, write or call Extek: an international leader in high-performance microfilm equipment since 1968.

Call Extek for a complete line of aperture card cameras, 35 mm roll film cameras, cards, chemicals, factory-training and service.

Extek Microsystems, Inc.
6655 Hayvenhurst Avenue
Van Nuys, California 91406
Telephone: (818) 989-2630
Telex: 651465
A 'Golden' Investment

Putting together an energy-savings "portfolio" can be more beneficial than stocks and bonds. A THERMACORE® door can be a definite asset to any building, old or new.

The precise combination of polyurethane foam and embossed galvanized sheet steel, using a unique patented lamination process that compresses the foam to 3.24 lbs./ft.³, results in an insulated door panel that is more than the sum of its parts. The product is a tough, durable yet lightweight insulator with an R factor of 13.00 and a U value of .077 that can be easily cut to any length with ordinary hand tools.

The lamination that is the key to that strength, longevity and insulation is so uniform and the bond between foam and steel is so strong that THERMACORE® can do what no other doormaker can do. We're so confident in our process and our meticulous quality control that we offer an unbeatable...

FIVE YEAR WARRANTY

...against panel delamination.

Couple this rugged panel with our patented seal system, high-quality hardware, track channel and counterbalance and you get a door that will save you enough on fuel bills to literally pay for itself in a matter of years* and go on earning you dividends for many years to come.

And while your investment is paying off, you'll be a lot more comfortable — warmer in the winter, cooler in the summer and more secure from unwanted intruders.

It pays to invest in a "sure thing" — it pays to invest in...

THERMACORE®

THE WORLD'S MOST ADVANCED INSULATED INDUSTRIAL DOOR
Manufactured by Insoport Industries, Inc., 3200 Reach Road, Williamsport, Pennsylvania 17701

*Approximate energy savings can be calculated for your facility upon request.

Circle No. 336 on Reader Service Card
Roofing products brochure features Prestique laminated fiberglass shingles with the look of wood. They are 20 percent larger than conventional shingles to speed installation. Also in the brochure are Sun-Seal single-ply shingles, roll roofing products, and coatings and cement. Elk Roofing Products. Circle 206 on reader service card

The Ambassador Executive Collection includes a double-pedestal desk with cantilevered top, available wrapped in black leather with chrome base and stainless steel details as well as in wood veneers and high-gloss colors in various combinations. Also in the collection are a table desk and a credenza (shown) in high-gloss green or in wood veneers and leather in various combinations. Nienkamper. Circle 122 on reader service card

Unifloor flooring system, suitable for heavy-duty commercial applications, stays flexible throughout its life. Because pattern and color extend through the material, heavily trafficked areas do not show wear. It has 75 percent vinyl content and a dense surface that does not absorb soil. The flooring meets flammability and smoke density requirements of the Life Safety Code. An eight-page brochure describes features of the several grades, such as cushioned, sport, conductive, and antistatic flooring. Specifications and a chart of properties are included. TSC Tek Stil Concepts, Inc. Circle 207 on reader service card

Lighting catalog describes and illustrates a variety of lighting products. The 40 pages are divided into four sections: Linear ambient and task lighting; Chandeliers; Lighting specialties, such as grids and infinity panels and tables; and Tungsten halogen task lighting. Information provided includes installation, dimensions, materials, and electrical data. Modulightor. Circle 208 on reader service card

Furniture for the Creative Person is a 68-page catalog of drafting room furniture and equipment. It includes drafting boards, tables, flat and vertical files, desks, and seating. There is also a section covering instruments such as drafting machines, straightedges, scales, and light boxes. A copy of the catalog and a price list are available for $2.50 from Mayline Company, Inc., 619 N. Commerce St., P.O. Box 728, Sheboygan, Wis. 53082.

Landscape lighting brochure features three designs: a recessed well light that withstands total immersion in water; a shielded all-weather bullet light, suitable for wet locations, with a swivel elbow adjustment that rotates 360 degrees; and a fixture with shielded wide angle beam that illuminates trees without creating hot spots on their trunks. Sketches illustrate the fixtures and typical settings, and drawings show details. All are UL rated. Greencore Landscape Lighting Mfg., Inc. Circle 209 on reader service card

Washroom equipment catalog for 1984 includes improved features such as a nondogging liquid soap dispenser valve that won't leak or drip and a soap container with a large, hinged and locking filler top. Other new items are a napkin dispenser with self-closing door and three new framed mirror/shelf combinations in stainless steel. All products are shown photographed in color. Bobrick International. Circle 210 on reader service card

Hallemite seamless flooring is 100 percent solids, two-component epoxy that is troweled on. After the coating self-levels, the selected aggregate is broadcast onto the surface, followed by an epoxy topcoat for a floor free of depressions and trowel marks. The material can also be used for cove base and wainscot. The products and their application are covered in a four-page brochure with pictures and technical data.
brochure, which has a selection chart for choosing the proper material depending upon the area to be surfaced. United Materials Technology, Inc. Circle 211 on reader service card.

**Impact protection systems** for commercial, industrial, and institutional buildings include wall guards, handrails, corner guards, wall protection panels, and equipment bumpers. A full-color, 20-page selection guide illustrates the products, most of which are available in several colors, and shows details of their installation. Pawling Rubber Corp., Standard Products Div. Circle 213 on reader service card.

**Terra-Lite® soilless growing media** are offered in eight different mixes for indoor or outdoor planting. The mixes, which weigh 8 to 18 pounds dry per cubic foot, come in three- or four-cubic-foot bags. Descriptions of the various media, including a list of ingredients in each, package weight, and other pertinent information is included in a six-page brochure. W.R. Grace & Co., Horticultural Products. Circle 214 on reader service card.

**Volclay Panels** can be nailed in place against foundation walls to create a waterproof seal. The panels contain a mineral that swells when wet to form a gel-like barrier between the building and the backfill. The panels are easy to handle and can be applied in almost any weather or temperature. American Colloid Co., Building Materials Div. Circle 121 on reader service card.

**Dock seal selector guide** aids in the selection of the right seal for semis and local delivery trucks and railroad cars. All seals are easily installed and form an airtight seal against inclement weather and loss of heat or air conditioning. AirLocke Dock Seal, Div. of O’Neal Tarpaulin Co. Circle 216 on reader service card.

**Access 2000 raised floor system** is specifically designed for office buildings. Its reinforced construction offers high strength and durability and provides unlimited access to underfloor services. Panels are precisely sized and squared, with edge trim molded in. Pedestals are available for all subfloor heights. There is a wide choice of carpeted surfaces. Floating Floors, Inc. Circle 121 on reader service card.

---

**FULL HOUSE.**

ONLY TWA’S BUSINESS CLASS GUARANTEES 6 SEATS ACROSS TO BOTH EUROPE AND THE MIDDLE EAST.

MOST AIRLINES HAVE 8.

For space and comfort across the Atlantic, the smart money's on TWA. Because TWA has 6-across seating on every nonstop from the U.S. to Europe and the Middle East. Most airlines have eight. And every seat is either an aisle seat or window seat, so you'll have more room to work, and more room to relax.

And now you get comfortable 6-across seating on every widebody TWA flies overseas—our L-1011's as well as our 747's. That's because we've folded down the two middle seats and added more legroom in our L-1011's. So now, they're more comfortable than ever. TWA's Ambassador Class. Just six seats across on every flight to Europe and the Middle East—not eight like most airlines.

Who's your money on?

You're going to like us TWA.

For space and comfort across the Atlantic, the smart money's on TWA. Because TWA has 6-across seating on every nonstop from the U.S. to Europe and the Middle East. Most airlines have eight. And every seat is either an aisle seat or window seat, so you'll have more room to work, and more room to relax.

And now you get comfortable 6-across seating on every widebody TWA flies overseas—our L-1011's as well as our 747's. That's because we've folded down the two middle seats and added more legroom in our L-1011's. So now, they're more comfortable than ever.

TWA's Ambassador Class. Just six seats across on every flight to Europe and the Middle East—not eight like most airlines.

Who's your money on?

You're going to like us TWA.

For space and comfort across the Atlantic, the smart money's on TWA. Because TWA has 6-across seating on every nonstop from the U.S. to Europe and the Middle East. Most airlines have eight. And every seat is either an aisle seat or window seat, so you'll have more room to work, and more room to relax.

And now you get comfortable 6-across seating on every widebody TWA flies overseas—our L-1011's as well as our 747's. That's because we've folded down the two middle seats and added more legroom in our L-1011's. So now, they're more comfortable than ever.

TWA's Ambassador Class. Just six seats across on every flight to Europe and the Middle East—not eight like most airlines.

Who's your money on?
Are there really any good reasons left to side with wood?

There was just one: appearance. But now, Wolverine Building Products has eliminated that reason with Restoration Series Three. This is solid vinyl siding so beautifully crafted, you can't tell it from painted wood.

So technologically superior, it comes with a lifetime warranty.*

Its 3-inch exposure has the authentic appearance of clapboard siding. Its smooth, flat finish comes in natural colors that quietly please.

Of course, there are none of the maintenance problems of painted wood. Not ever.

See for yourself. Send for information or call Jackie at 800-521-9020 for the name of your nearby representative.

Restoration Series Three
solid vinyl siding

Wolverine Building Products

*Some restrictions may apply. See warranty for details.
A microwave oven is available for compact kitchens. It is wall-hung and includes a timer and a variable power knob for control over power settings. King Refrigerator Co.

Circle 123 on reader service card

Clipon® removable ceiling design elements, described in an eight-page catalog, attach to existing T-bar grid ceilings. They are easily removed for relocation. Consisting of Baffleline® (white), Arcaline® (red), Deltaline® (white), and Beamline® (brushed brass), Clipons can add interest to ceilings and delineate office areas. Special finishes can also be ordered. Integrated Ceilings, Inc.

Circle 217 on reader service card

Five specialty Wilsonart laminates are described in an eight-page, full-color brochure. Chemsurf® is chemically resistant; Tufsurf II® is abrasion resistant; Fire Rated is fire resistant; Dor Surf® is impact and abrasion resistant; and Metalcor is impact, stress, and fire resistant. Charts show performance traits, colors and designs, and recommended functional applications. Ralph Wilson Plastics Company.

Circle 218 on reader service card

Orchidea fittings for kitchens, baths, whirlpools, hot tubs, and bar sinks were designed by Junko Enomoto for Zazzeri of Italy. They are available in six colors plus black and white. An illustrated six-page brochure shows the various fittings and colors. Watercolors.

Circle 219 on reader service card

Magnum Alert-700 is a compact security alarm system for apartments, condominiums, offices, and small businesses. The control panel has a keyboard for access to system functions. There are three programmable brightly zones, two 24-hour zones (panic and fire), selectable exit/entry delay timer, manual and auto shunting, day zone supervision, priority arming, and auto reset. Napco Security Systems, Inc.

Circle 126 on reader service card

Architectural interiors fabrication capabilities are illustrated in a four-page color brochure. The company assumes responsibility for providing and installing wood, plastic laminate, marble, granite, specialty metals, glass, and fabrics. Loughman.

Circle 220 on reader service card

Lucifer® linear lighting is described and illustrated in an eight-page brochure. Strips are available in several lengths that can be assembled in tandem or cut to specifications. The catalog includes transformers, dimmers, lamps, and housings. Photometric and other data are provided. Lucifer Lighting Company.

Circle 221 on reader service card

Vinyl composition floor tile for commercial use is described and illustrated in a four-color, six-page folder. Tiles include Supreme Vinyl Corlon, Classic Travertine, and Feature Tile/Feature Strips, as well as standard Excelon. The brochure has color charts and a table of physical data. Armstrong World Industries.

Circle 222 on reader service card

Ceramique vinyl floor tile is offered in two new patterns in seven colors. Fountain Plaza is an octagonal pattern in blue, almond, brown, or yellow glaze with darker tone dappling in the same color to accent the design. Provencia Grande has diamond borders of natural wood with a center design reminiscent of tooled leather. It combines gunstock with blue, terra cotta, or biseque. The asbestos-free tiles are 12" x 12" and are adhesive-backed for easy installation. Tarkett, Inc.

Circle 223 on reader service card
Building materials

Major materials suppliers for buildings that are featured this month as they were furnished to P/A by the architects.


DESIGN COMPETITION

SILAS DEANE HIGHWAY, WETHERSFIEld, CT

A national search for a visionary concept to guide the future development and improvement of the Town's primary commercial environment.

AWARDS:
First Prize: $15,000
Second Prize: $8,000
Third Prize: $3,000
Four Citations: $1,000 each

Honor Mention: $1,000 each

To register and receive a competition kit, send a non-refundable check for $40 to Joseph F. Pierz, AIA, Professional Advisor, SILAS DEANE DESIGN COMPETITION, 115 Garden Street, Wethersfield, Connecticut 06109.
Carpets of Herculon Nouvelle™

Herculon Nouvelle is the contract carpet fiber that's truly qualified to perform on every floor of your corporate facility—from the lobby to the executive suite. With beautiful results.

Because carpets of Herculon Nouvelle give you the ultimate blend of beauty and on-the-floor performance. With a wide variety of new, contemporary styles and textures that are ready to accept the design challenge of any and every office space application. And with a proven record of durability in resisting the everyday spills, spots, and wear of the corporate grind. For years to come.

So before you put just anything to work on the floor of your office, take a look at our executive material. And give your business a better footing with Herculon Nouvelle.

HERCULON

Nouvelle

The Contract Fiber.
MORE THAN 140,000 PROFESSIONALS FROM 104 COUNTRIES CAME TO MILAN IN 1983. THIS YEAR THE FURNITURE AND LAMPS ARE EXPECTING YOU, TOO.

INTERNATIONAL FURNITURE EXHIBITION • 9TH EUROLUCE INTERNATIONAL LIGHTING EXHIBITION
MILAN FAIR GROUNDS, SEPTEMBER 19-24, 1984

Organiser

cosmit
C.so Magenta, 96 • I-20123 Milano
Tel. 02/4988361 (5 lines)
Telex 334394 COSMIT I

Circle No. 371 on Reader Service Card
MID-STATE TILE COVERS 5½ ACRES OF DOWNTOWN PHILADELPHIA.

A quarter-of-a-million square feet is probably one of Philadelphia's biggest tile jobs. And we supplied it all for phase two of The Gallery, a downtown shopping center.

What's more, we custom-made the paver floor tiles to match another manufacturer's used in the first phase of construction.

We make Carolina Colony pavers in many beautiful earth tones for commercial and residential applications.

If quality is your number one priority, let us bid on your next tile job, be it small, large or Philadelphia-size. Write us at Box 1777, Lexington, NC 27292.
Clustered in the midst of Florida pine and cypress, just 25 minutes north of Tampa International Airport, a complete resort has been carefully crafted with all its facilities within easy walking distance. At Saddlebrook, skilfully blended into a unique Walking Village environment are 450 lavishly decorated, privately owned suites, meeting rooms and banquet facilities, 27 championship holes of golf, 17 tennis courts, swimming in the meandering half-million-gallon Superpool, tropical and intimate dining, entertainment, shopping and a complete health spa.

To aid in planning your next vacation, meeting, or second home purchase, call or write Saddlebrook for a detailed guide.

Saddlebrook is the recipient of the AAA’s coveted Four-Diamond Award; McRand’s Conference Award . . .

Condominium suites are available for individual ownership. Call or write C&A Investments, Inc. at Saddlebrook Resorts, Inc. Offer not valid in states where prohibited by law.

The Best New Resort in the Country; Meetings & Conventions’ 1983 Gold Key Award and the Mobil Four-Star Award.

SADDLEBROOK
The Golf and Tennis Resort
P.O. Box 7046
Wesley Chapel (Tampa), Florida 34249
(813) 973-1111
Phone Toll Free Continental U.S. 800-237-7519
In Florida 800-282-4654

Circle No. 376 on Reader Service Card
Different Strokes!

Select Saddlebrook for Super Golf, Tennis or Summer Packages

Whether you want to improve your ground stroke, take a few strokes off your game or practice your backstroke, Saddlebrook has a special package that will help make it happen. Improve your golf game on Saddlebrook’s 27 championship holes. Designed and built by Arnold Palmer and Dean Refram, Saddlebrook’s golf courses are both beautiful and challenging. For tennis, Saddlebrook has 17 courts — 13 Har-Tru (five lighted for evening play) and 4 Laykold. Clinics and pros are available for golf and tennis, as well as complete Pro Shops.

Saddlebrook is a unique resort, thoughtfully arranged in a special Walking Village around our half-million-gallon Superpool. Enjoy intimate dining in our lush tropical setting. Saddlebrook is totally self-contained with entertainment, shopping and a complete health spa — everything you’ll need for a relaxing getaway!

Saddlebrook is close to Busch Gardens (Tampa) and convenient to the Walt Disney World Magic Kingdom® and EPCOT Center.

SUPER GOLF PACKAGE!

$37.50 Per person/per night
(Double occupancy
(state tax and gratuities not included)
June 15 - Sept. 14, 1984*

Package includes:
• Accommodations
• Unlimited daily greens fees
• 18 holes guaranteed daily
• Advance reserved tee times
• Golf bag storage
• Daily admission to Jockey Club Spa

SUPER SUMMER PACKAGE!

$25.75 Per person/per night
(Double occupancy
Based on 7 night minimum with
2 people in a 1 bedroom suite
(state tax and gratuities not included)
June 15 - Sept. 14, 1984*

Package includes:
• Luxurious accommodations in a privately owned suite
• Housekeeping service once during the week
• Fully equipped kitchen in the suites
• Complimentary laundry facilities

SUPER TENNIS HOLIDAY!

$40.50 Per person/per night
(Double occupancy
(state tax and gratuities not included)
June 15 - Sept. 14, 1984*

Package includes:
• Accommodations
• Unlimited tennis, with 3 hours guaranteed court time daily
• Daily admission to the Jockey Club Spa
• ½ hour instructional clinic daily
• ½ hour use of electronic ball machine daily

*Arrivals can be any day of the week.

Write or call toll-free
800-237-7519
In Florida, 800-282-4654 or 813-973-1111

Saddlebrook
The Golf and Tennis Resort
P.O. Box 7046  Wesley Chapel (Tampa), Florida 34249
25 minutes north of Tampa International Airport

Condominium suites are available for individual ownership. Call or write C&A Investments, Inc. at Saddlebrook Resort, Inc. Offer not valid in States where prohibited by law.

Circle No. 377 on Reader Service Card
**Situations Open**

Architects—HLM is a top 20 national A/E firm seeking experienced Design Architects, Project Architects and Job Captains for our Iowa headquarters. Positions require a bachelor’s degree and experience in medium to large-scale institutional, commercial or industrial projects. Health care project experience a plus. Design Architects should have a minimum of 5 years related experience in all aspects of architectural design. Project Architects and Job Captains should have a minimum of 3 to 5 years experience with extensive background in contract document preparation desirable. If quality of life and professional growth is important to you, look into our dynamic, growth-oriented firm, located in a Big 10 university community known for its cultural environment. We offer outstanding professional opportunities, competitive salaries and attractive benefits. Send letter and resume in confidence to: Randall Kuhlman, Director of Personnel, Hansen Lind Meyer, Drawer 310, Plaza Centre One, Iowa City, IA 52244. Equal Opportunity Employer M/F.

**Computer Graphics Laboratory Manager/Applications Programmer**—Outstanding candidates sought for a 12 month professional position for a new computer graphics laboratory. To create a center for excellence in computer graphics, the University will make a major investment in a laboratory with an Intergraph CADD system with 14 color workstations, printers and plotters. Although available to the entire university community for a broad range of computer graphics applications, major focus will be institutional and research applications in architecture, landscape architecture, and environmental planning. The successful candidate will manage the laboratory, maintain and update the system and software, participate with the faculty in graphics applications research and the development of teaching programs, and participate in course and workshop instruction. Master’s degree in computer science or equivalent in education and experience required, with strengths in operation of large CADD systems and appropriate programming experience. Undergraduate degree in architecture or a related environmental design field highly desirable. Salary dependent upon qualifications. Send application, current curriculum vitae, transcripts, and three letters of reference to Dean Robert A. Fisher, College of Architecture and Planning, Ball State University, Muncie, Indiana 47306, by August 10, 1984. Ball State University Practices Equal Opportunity in Education and Employment.

**Designers**—Orlando, Florida, office of national A/E firm has immediate need for Project Designers. A Bachelor’s of Architecture or Master’s degree plus 3–10 years large scale commercial/institutional design experience is required. Competitive salary, benefits package, and opportunity for continued professional development. Salary and rank are negotiable. Applicants should submit a resume with complete academic and professional experience, education, list of publications, names and addresses of three or more References, description of area of specialization, and a statement of educational philosophy to: C.M. Smart, Jr., Dean, School of Architecture, Vol Walker Hall 218, University of Arkansas, Fayetteville, Arkansas 72701. Application deadline: 15 September, 1984. The University of Arkansas is an Equal Opportunity/Affirmative Action Employer.

**Director, Architecture Program**—The University of Arkansas School of Architecture seeks applicants for the position of Architecture Program Director, a twelve-month, tenure-track position to begin 1 January, 1985. Position time division: ½–½ administrative, ½–½ teaching. Qualifications: Post professional degree in architecture, teaching, administrative, and professional practice experience, and architecture. Salary and rank are negotiable. Applicants should submit a resume with complete academic and professional experience, education, list of publications, names and addresses of three or more References, description of area of specialization, and a statement of educational philosophy to: C.M. Smart, Jr., Dean, School of Architecture, Vol Walker Hall 218, University of Arkansas, Fayetteville, Arkansas 72701. Application deadline: 15 September, 1984. The University of Arkansas is an Equal Opportunity/Affirmative Action Employer.

**Faculty Openings:** FT, in the Graduate School of Architecture and Planning, Columbia University, to teach Design and History/Theory. Please send application to Prof. J. Max Bond, Chairman, Division of Architecture, 404 Avers, Columbia University, New York, NY 10027, by June 27, 1984. AA/EOE.


---

**INTERIOR ARCHITECTURE**

HNTB, one of the nation’s leading architectural and engineering firms, has a requirement in its Kansas City office for a qualified senior-level interior architect or designer. We are seeking a creative individual with proven ability to produce high-quality interior architecture. Must be able to direct the design effort of major projects, work directly with client and other team members, and have a thorough understanding of all phases of project management. Must have 10–12 years experience with an architectural background preferred. Previous background in high expectation interior projects and general architecture required.

We offer an excellent benefit package, a challenging work environment, and a commitment to outstanding design. If interested, please send resume and salary requirements to:

Jeffrey B. Miller, AIA, Director, Interior Architecture
HOWARD NEEDLES TAMMEN & BERGENDOFF
P.O. Box 299
Kansas City, Mo. 64141

Equal Opportunity Employer M/F.

---

**Services**

Hemsher Associates independent controls and instrumentation consulting firm. Seeking position as a member of the Architect’s design team to prepare bid documents for commercial building projects where comfort, energy-efficiency and quality environmental control is a high priority. Includes computer-based Facilities Management Systems, DDC and smoke control. 3025 Washington Rd., McMurray, PA 15317, (412) 941-3080.

**Rita Sue Siegel Agency**

353, a recruiting service to find architects, interior, graphic and industrial designers, marketing and sales support people for consultants and businesses. Confidential. Nationwide, international. 60 W. 55 St., New York, NY 10019, 212/586-4750.

**Notice**

Please address all correspondence to box numbers advertised as follows:

Progressive Architecture
% Box
600 Summer Street
Stamford, Connecticut 06904

**Advertising Rates** (Effective January ’84 issue)
Non-display style: $130 per column inch. Seven lines per inch. Maximum 4 inches. Column width approximately 2¼". No charge for use of box number. Situations Wanted advertisements: $65 per column inch. Noncommissionable.

Display style: $180 per column inch, per your layout. Commissionable to recognized advertising agencies.

Check or money order should accompany the advertisement and be mailed to Job Mart % Progressive Architecture, 600 Summer Street, P.O. Box 1361, Stamford, CT 06904.

Display style advertisements are also available in fractional page units starting at ½ page and running to a full page. Contact Publisher for rates.

Insertions will be accepted no later than the 1 of the month preceding month of publication. Box number replies should be addressed as noted above with the box number placed in lower left hand corner of envelope.
No one offers as many different kinds of flooring. No one!

No single floor covering can perform the variety of tasks demanded in today's commercial environment. Different areas of the same building, even the same room, may require different flooring. That's why Tarkett has developed 11 types of sheet vinyl flooring.

Each type is highly specialized to help you solve a specific problem...with properties ranging from greater slip resistance to improved acoustics, from electrical conductivity to increased bacterial control. Most are homogeneous for superior durability with color and pattern going throughout the full thickness of the material. All are asbestos-free, stain resistant and easy to clean.

And with a total of 105 colors and 14 patterns, Tarkett enhances your freedom of design. Specify Tarkett...your assurance of getting the right flooring for the right area.

Your Tarkett contract specialist will put our diversity and nearly 100 years of worldwide experience to work for you. For more information call toll-free 1-800-225-6500.