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Re: your March 1985 editorial on the goals of the AIA:

Out in 1986 is indifference to the contribution the media can and do make in raising the public's and the architect's appreciation of design excellence.

In will be architects speaking out on the local level in support of value architecture.

In will be bringing architects and the media together to serve the public's right to know.

Out in 1986 is a failure of alumni who design projects that reporters and editors can only label ordinary, boring, or just plain bad.

In will be architects who do work that is worth honoring by the media and the public.

Out in 1986 is the AIA president who does not respond to the challenge of a supportive editorial.

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Out in 1986 is the AIA president who does not respond to the challenge of a supportive editorial.
If you ever thought computers were just for the big firms, think again. That’s what a new survey tells us...

On page 37 of this issue, you’ll find a reader survey entitled “How are the firms with computers faring—and what are the nonusers waiting for?” As befits a report on survey results, the results are reported in straightforward, factual fashion—but on this page I have the license to offer some opinion and even some advice. Herewith:

There is just no doubt any more that architectural firms, even (or maybe especially) small firms, either need to get involved in computers—or have a very good, very well-thought-out reason for not doing so. That advice comes hard from an editor who not long ago was desperately hoping to get to early retirement without actually having to learn much about computers. But it is now clear that all architects (like all editors) have to learn a lot about computers—and that the benefits of computer usage are simply too large and too important to ignore.

Size of firm is clearly no longer an acceptable excuse for not taking the plunge. While many of the respondents to our survey who already use computers are medium- and large-size firms, the median size of computer-using firms was only seven employees, with three architects.

Cost of system is not much of an excuse either. Some 80 per cent of the computer users who responded to the survey report that their first, entry-level system cost less than $25,000 including software. And while most of them have expanded their systems, well over half report that their system investment is still under $25,000.

Those kinds of reasonably modest costs are explained by the advice given by many respondents: Don’t be afraid to start small—with micro (personal) computers. Most small firms are clearly doing just that—and, according to the survey, more than a few larger firms (even if they already have a larger centralized computer system) are also buying personal computers so that their designers and draftsmen can do most of their work at their own desk and drafting board instead of having to move into a centralized “computer department.”

The frustrations of the nonusers are clear. Asked “Why hasn’t your firm invested in a computer system?,” cost was the most-cited reason. But a little lack of information on cost is exhibited by the nonuser respondents: 70 per cent said they would be interested “if a system were available for less than $15,000”—and of course a goodly number of systems (including systems that can handle not just nongraphic functions but reasonably sophisticated CAD functions) are indeed available at that price.

But if you’re interested in one editor’s opinion, I believe the most telling comment from nonusers is the number who said they hadn’t invested in a computer because “We can’t sort out which system would be best,” and commented in one way or another on “the difficulty of understanding and evaluating alternatives.” In short, which is no news to anyone, the world of computer hardware and software is complicated, confusing, and competitive. But, in the final questions of the survey, computer users offer to their not-yet-user peers some awfully sensible advice about sorting out the confusions. They offer no easy ways—indeed they emphasize that there is no short cut to choosing the system that is right for your firm. And most of the respondents make the point that only the principal of the firm can make the choice—not just because it’s the firm’s hard-earned money that is going to be spent, but because only the principal(s) know where the firm should be going, and therefore what the computer should be asked to do.

But overriding everything else in the survey is the very-nearly-unanimous cry to “Do it, do it, do it!” There is no point in repeating here the savings/benefits listed by the respondents to the survey (see question 26 in the report, which, again, begins on page 37). But they make a powerful case to “Do it, do it, do it now!” W. W.
The concealed closers specified for this unique corporate headquarters entrance had to do more than preserve the smooth, free flowing lines of its design. They also had to perform dependably in a location noted for gusty winds, severe weather and high peak volumes of traffic.

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Circle 7 on inquiry card
ACEC announces current awards

Topping the list of this year’s awards by the American Consulting Engineers Council was the Grand Consultant Award to Sverdrup & Parcel and Associates for their design of a $240-million space shuttle launch complex in California. Innovations at the complex include permanent mobile skyscrapers and large stationary structures built to withstand blast-off impacts equivalent to some 325,000 pounds of TNT.

Other awards went to Sverdrup for the innovative use of slurry wall construction for a subway line in Cambridge, Mass., estimated to have saved some $3 million in construction costs; to Donohue, Engineers & Architects for advances in the detection of airport runway failures; to engineers and environmental consultants Dames & Moore for showing the feasibility of using utility waste for building site fill; to Coffman Engineers for their design of a compact, self-contained industrial community in the environmentally sensitive Prudhoe Bay area; to Black & Veatch, Engineers-Architects for the design of a coal-burning power plant in Colorado through innovations in flue-gas scrubbing, coal storage, and cooling by recycled sewage that also reduces water consumption; to EDA Engineering & Science for breakthroughs in the decontamination of styrene in nitrate fertilizer; to McNamie, Porter and Seeley for the design of a diverter for storm-water drainage that separates it from sanitary sewage before reaching treatment plants; to Hubbell, Roth and Clark for pioneering the use of magnesium hydroxide in the treatment of electropositive wastes in a facility that was built in 3 1/2 months; to Urban Engineers for techniques in the construction of a railway tunnel that allowed it to pass under landmark and high-rise buildings without damage; to the International Engineering Company for the design of the world’s largest power plant in South America; to International Engineering again for innovations in the construction of a dam in Colorado; to Figg and Muller Engineers, Inc. for the design of a segmented concrete bridge that could be built with minimum disturbance of a scenic terrain; to Langan Engineering Associates, Inc. for the design of innovative foundations that allowed high-rise construction on a site with shifting subsoil conditions; and a grand award to architects and engineers Daniel, Mann, Johnson & Mendenhall for the design of a water-reclamation and wastewater treatment plant integrated into an Oriental-style garden.

American architects, engineers, and contractors working overseas add significantly to the nation’s export earnings, contributing billions of dollars to the American economy, concludes a major analysis of the impact of the industry’s foreign performance.

The report, by Price, Waterhouse & Co., Inc., found that the total revenue generated abroad in 1988 by the construction industry was $19.6 billion. A figure equal to more than half of that, $11 billion, benefited the American economy, either as direct dollar return flows or as revenues generated within the United States from overseas work. Total American exports that same year were $332 billion, including $132 billion in services.

The $75,000 study, entitled “The Contribution of Architect-Engineer-Construction Exports to the U.S. Economy,” was commissioned by the International Engineering and Construction Industries Council (IECIC), an umbrella organization made up of the American Consulting Engineers Council, the American Institute of Architects, the Associated General Contractors and the National Constructors Association.

IECIC decided on the study last year following requests from both Congress and the administration to come up with numbers to back up the industry’s contention that it contributes significantly to exports. Industry leaders had emphasized this message in hearings and meetings on Capitol Hill and with the administration in efforts to strengthen the Export-Import Bank, especially its direct lending authority, under attack from the administration, which wanted to do away with direct lending. In late April, the administration suffered a setback when the House Banking, Finance and Urban Affairs Committee authorized $2.4 billion in direct loans again.

ACEC’s chairman David B. Perini told a press conference in Washington in mid-April: “We are happy finally to have the solid numbers to back our belief that enhancing the export environment for U.S. business is critical to our domestic economic health.”

The study found that of the $19.6 billion generated abroad in 1983, almost $4.8 billion directly flowed back to the United States. A total of $15.1 billion were local expenses. The backflow broke down into $2.2 billion in salaries and fringe benefits; $1.9 billion in material (usually equipment); $626 million on overhead spending; and $364 million in personal and corporate taxes. Foreign construction and design work directly created some 45,000 jobs, according to the study.

More important, foreign work generated some $6.1 billion in indirect revenues, a figure Price, Waterhouse found by multiplying factors developed by the U.S. Department of Commerce. This total included $4.1 billion in employee income, $102.1 million in construction taxes, and $5.1 million in personal taxes. Using multipliers developed by the Labor Department, Price, Waterhouse found that foreign work was responsible for generating some 216,000 additional jobs at home.

While all this sounded terrific by itself, Perini pointed out that these numbers represented a significant downturn from the previous year 1982—“some very distressing news,” as he phrased it—including a revenue loss of some $800 million, a tax loss of some $3.5 million and a loss of some 7,000 jobs.

Peter Hoffmann, World News, Washington, D.C.

National Computer Graphics Association terms its show a success

Offering some 243 exhibits to over 20,000 attendees in Dallas in April, the National Computer Graphics Association, termed its show Computer Graphics ’85, a turning point for CAD/CAM. “This is no longer a fragile segment of the computer industry, but a fully independent industry which has crossed over the threshold,” said conference chairman Roy Bower. The association, a group of some 7,400 professionals and 90 corporations, has held six annual shows including this most recent one, and reports that the next show scheduled for Anaheim on May 12 through 15 is already sold out. Two regional shows are scheduled this year, in Los Angeles on June 25 and in Boston on August 13.
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The handsome Bent Tree Green office condominiums in north Dallas capitalize beautifully upon the atrium concept through use of structural ridge skylights by Naturalite.

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Circle 38 on inquiry card
The results of a RECORD survey: How are firms faring—and what are the nonusers waiting for?

In several thousand copies of the February issue, we tipped in a four-page reader survey for "computer users—and nonusers." By the cut-off date we received 376 replies from firms that have committed themselves to computerizing their work—and 145 replies from firms that for various reasons decided not to, at least not yet.

While the research mavens at RECORD have declared that this is not a representative sample, the answers given—and reported on these pages—nevertheless provide some useful insights and information on reasons that architectural firms (most of whom have taken the plunge and others have not done so yet).

Further, the same research experts tell me, no conclusion can be drawn from the fact that 70 per cent of only those responding are computer users—that simply means that firms who have invested in computer systems are more likely to respond to a survey on computer use than those who are still waiting and/or wondering. Those caveats aside...

The first eight questions of the survey (which are repeated in the subheads at right) were addressed to nonusers. They ask why the firm has not taken the plunge (main reason, not surprisingly, cost) though the second most frequent answer is, "We can't sort out which system would be best for us." Other questions asked: to what extent the nonusers have tried to find out about computer use and its benefits; the main interest of the nonusers once they do make an investment (both graphic and nongraphic functions); and/or the fact that while nonusers have been expanded, how much cost, the functions that it is performing (and the list is a long one), the extent to which the systems are based on microcomputers/mini-computers (a great deal), which manufacturers supplied the hardware, and—most important—what the benefits have been.

Not surprisingly, the computer firms are quite small: the average firm size is 5.4 with 2.2 registered architects, and the median size is 3 employees, with 2 architects. For those firms who have computer systems, the average number of employees is 23.5 (a figure that is skewed upwards by the fact that 11 very big firms (more than 300 employees) responded. But the median size for computer-using firms was 7—with 5 architects.

Here are the survey results:

Nonusers were asked...

Question 1: Why hasn't your firm invested in a computer system?

Only 4 per cent of the 148 firms responding to this question said "We're just not interested." But...70 per cent thought "it would cost too much," even though, in response to the question, "About how much do you think an entry-level system would cost?" 21 per cent said "about $5,000," 35 per cent said "$5,000 to $10,000," 31 per cent said "$10,000 to $25,000," and 14 per cent thought an entry-level system would cost "more than $25,000."

46 per cent said "We can't sort out which system would be best." 32 per cent felt "Our firm is too small to benefit."

24 per cent said, "No one in our firm has the expertise to get us involved in computer use."

17 per cent said, "We are afraid it would take too long to train ourselves."

The questionnaire invited write-in comments. A number of respondents were clearly concerned about the timing of any computer purchase: "We've been watching the field for three years; it changes so rapidly that a decision is difficult to reach."

Concerned about rapid change in computer capabilities, and systems seem outdated before you can learn to use them. We've tried to learn as much as possible before making the investment, but conference "too many concepts, too many acronyms." "Management reluctant to change from the old ways." "as a reason for not taking the plunge. Most plaintive comment: "If only you could use voice commands—talk to the computer rather than typing..."

Questions 2, 3, and 4:

On learning about computer use

Of 148 respondents not yet using computers, 25 per cent said they or someone in the firm had attended one or more AIA seminars on computer use; an astonishing 65 per cent had "other education meetings to 'look into' computer use;" and 14 per cent had attended a major computer conference "such as AIA/Systems 84." Most of the respondents said they had "read articles in RECORD or other professional magazines on the use of computers."

Asked if they believed that local competitors (of similar size) are using computers: 37 per cent said yes, 39 per cent said no, and 24 per cent said "don't know."

Questions 5 and 6: On hoped-for uses and hoped-for prices...

Question 5 asked: "If you were to consider a computer system in the future, what would you be primarily interested in?"

5 per cent said "computer graphics," 29 per cent said "nongraphic uses," and 63 per cent said "both."

Asked if they would be interested in "a system available for less than $15,000," 79 per cent said yes, 20 per cent said no (though a number of respondents volunteered that they were not interested in "just an entry-level system.").

Questions 7 and 8: What more help do nonusers want or need?

Question 7 asked: "What kind of information/help would you need to further consider a computer installation?"

The largest number of write-in comments focused on the difficulty of "understanding and evaluating alternatives." Many respondents were interested in hands-on demonstrations of systems at work, which of course seem to be available without trying too hard. A number were interested in "pilot or loan systems for trial use prior to purchase."

Another considerable group were interested in "help or advice to justify the cost of a system, especially in the small firm." Many were interested in "helping your system meet financial goals, and how much you are willing to spend."

Questions 9 and 10: How did you use your first system and what did it cost?

As you might suspect, given that developments in computer-aided design and drafting are more recent, only 84 per cent of respondents reported that their first system was used for non-graphic functions—job control, accounting, spec writing, and the like. Only 5 per cent of the first systems were used for graphic functions, and 11 per cent were used for both.

And most of those first, entry-level systems were relatively inexpensive—including software.

Less than $10,000.............62%
$10,001-25,000.............19%
$25,001-50,000.............7%
$50,001-100,000............6%
More than $100,000........6%

Question 12: Most of the systems (and investments) have grown

Of the base of 376 computer-user respondents, 67 per cent (or 251 firms) report that their system has been expanded since their first investment. And so has the total cost of the system, as can be seen by comparing the list below with the cost list just above:

Less than $10,000.............8%
$10,001-25,000.............49%
$25,001-50,000.............12%
$50,001-100,000.............7%
$100,001-250,000...........10%
$250,001-500,000...........7%
Over $500,000...........8%
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Cover:
Hotel Torrentius, Liége, Belgium
Charles Vandenhohe, Architect
Photographer: Christine Bastin and Jacques Evrard
Brick lets your imagination leap out of bounds. And keeps your budget under control.

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So choose brick. It lets your imagination soar—not your costs.
"first investments" in computers and software were below $10,000, the "current investment" is considerably larger, with most costs reported in the $10,000-25,000 range and 25 per cent costing over $100,000 (only 6 per cent of first investments were over $100,000). These larger investments should be judged against the fact that 22 of the respondent firms have more than 100 employees, and of these 11 have more than 300.

Question 13:
List the functions you are handling to a substantial degree on the computer
The 376 respondent firms who do use computers provided this list:

Office management
- Word processing ........ 95%
- Specification writing .... 85%
- Spreadsheets ............. 69%
- Database management ...... 54%
- Business development .... 44%

Other functions listed were "accounting and integrated accounting, accounts receivable, billing/invoicing, bookkeeping, business financial services, correspondence and electronic mail, investment analysis, mailing lists, programming special reports, scheduling, terminal time, software production."

Project cost analysis and control
- Project cost accounting ... 48%
- Job estimating ........... 46%
- Job budgeting ............. 36%
- Job costing ................ 35%
- Feasibility studies ......... 25%

Materials take-offs ........ 13%

Project engineering/management
- Job scheduling .......... 25%
- Manpower utilization ...... 22%
- Construction management ...... 13%
- Project management ....... 8%
- Project administration ... 7%

Other functions listed were "CPM networks, building programming, occupant survey tabulation."

Space planning ............... 15%

Architectural engineering
- Energy analysis ........... 19%
- Structural analysis ........ 17%
- HVAC design ............... 10%
- Lighting design ............ 9%
- Electrical distribution ...... 5%
- Other electrical distribution .... 5%
- Acoustical analysis, area and dimensional calculations, audiovisual system design, bridge design, civil engineering analyses, engineering software development, finish schedules, hydraulic system design, structural design, surveying for structural analysis, rainfall analysis, security system design, soils engineering, solar calculations, teleconferencing system design, telephone system design.

Graphic functions
With the benefit of hindsight, we can see this question was not asked as clearly as it might have been— we had intended to determine whether the "pencil-drawing" function was done only in two dimensions or in three dimensions or isometric; it was assumed that the "working drawing" function was two-dimensional. At any rate, here are the replies:

Two-dimensional (38%)
- Working drawings .......... 31%
- Preliminary drawings ...... 28%
- Isometric ..................... 14%
- Three-dimensional .......... 14%

Other functions listed were "bubble diagrams, block diagrams, color modeling, details, finish schedules, door and window schedules, formatting test reports, organizational diagrams, schematic diagrams of engineering systems, site contouring, sketching, stacking diagrams, survey plotting, title blocks."

Questions 14 and 15:
Most of the systems are relatively small

 Asked what size computer their systems are based on, 84 per cent of the 376 respondents said microcomputers/personal computers; 25 per cent said mini-computers; and 6 per cent said mainframe computers.

 Asked how many workstations the firm has, 44 per cent said one, 28 per cent said two or three, 11 per cent said four or five, 9 per cent said six to 10, 5 per cent said 11 to 25, and 3 per cent said "over 25."

Question 16:
Who was the major hardware supplier for your system?
In this question, the numbers given are actual numbers of respondents who named the manufacturer, not percentages. You will not be surprised at the firm who has the most installations among the 376 respondents:

IBM ..................... 149
(of which 117 are IBM PCs or IBM PC XT)

Apple .................. 72

DEC .................... 39

Radio Shack ............. 27

Compaq .................. 28

Commodore ............. 25

Compugrid ............... 14

Computerworld .......... 12

Commodore ............. 12

The 376 respondents answered the question "Where did you find the software?" by sending in the names of computer software suppliers. Of the 376 respondents, RECORD will make every effort to contact each of these vendors for a listing in our 1985 "Guide to computer software for architects and engineers", to be published in October. Those suppliers who received more than 10 mentions are:

Lotus ................. 44

Microsoft ............ 43

Wordstar .......... 35

Autocad .............. 28

IBM ................... 23

Radio Shack/Tandy .... 21

Computerland ......... 14

Intergraph ............ 14

Apple .................. 10

DEC/Digital Equipment .. 10

In addition, 18 respondents reported that they wrote their own software.

Questions 19-25:
On choosing a system, on training, on getting up to speed
Of the 376 respondents, 89 per cent reported that a principal or partner chose the system the firm is using. Only 22 per cent reported that they used a consultant to help choose the system in use in their firm.

24 per cent of respondents said that before selecting a system they attended "a major computer conference such as AIA Systems '84"; 20 per cent attended an AIA seminar, and 46 per cent attended "some other educational meeting to 'look into' computer use."

Question 25:
How did you decide how much to spend on your computer system?
This question, in retrospect, was not a good question. Most of the answers were general, along the lines of "We studied the question and wanted the system to do, and spent as little money as possible to accomplish those functions."

Question 26:
What have been the savings, or benefits, of computer systems in your office?
Respondents were asked to check off benefits that RECORD assumed would be the major benefits, and were asked for write-ins of other savings/benefits.

Continued
The American Institute of Architects has a new roof.
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Circle 40 on inquiry card
The most frequently cited benefit was "better specifications"—of the 383 respondents who answered this question, 74 per cent checked off the spec-writing benefit.

Some 57 per cent checked off "office management efficiency increased"—and a long list of specific areas that was accomplished is given in the write-in responses below.

Of the 383 respondents, 136 volunteered "estimates/budgets/cost control management efficiency." The average increase was 47 per cent, the median was 32 per cent. 35 per cent said they were accomplishing better job estimates/budgets/cost analyses.

About 25 per cent of the computer users responding said that "working drawing productivity is increased," and another 13 per cent said "drawing productivity not increased, but drawings more accurate." These percentages would presumably have been higher if they had been asked only of those with CADD systems, instead of being asked to all computer users. 66 respondents reported an estimated increase in working drawing efficiency; the average increase was 76 per cent, the median increase was 33 per cent.

And another 25 per cent reported "better control of job scheduling." Finally, over half of the respondents listed "other savings/benefits" including these write-in comments from the questionnaires: "The CAD/CAM system can be studied in a given time period"—a point mentioned by dozens of respondents.

More accurate and current financial statements. "Simplifies the task of preparing proposals and contracts." 200 per cent increase in speed of making engineering calculations. "I don't know what productivity has increased the speed of drawings and that I think our drawings are now of higher quality, and the overlay features have surely increased their accuracy."

"We have increased our fees through more complete and methodical preparation of fee proposals—specifically, analysis of what it's in preparing hours and scope of work."

"Greatly improved employee morale," wrote an associate of a 23-person firm. "They have shown increased excitement in finding new, useful things for the computer to do."

"We feel we are preparing for the future—and for being competitive in the future."

"We are emphasizing problemsolving during the design period, which seems more important than production drawings, though we are getting savings there. Our gross fees are up 25 per cent per person," according to the principal of a 13-person firm.

"Can now work more efficiently during design development—and makes changes much easier to cope with."

"Our biggest saving is the reuse of graphic information from one job to another (similar) job."

"Makes a big impression on clients—clients are more impressed with computer-generated information than the same material typed or hand-drawn."

"Faster, more efficient energy analyses; faster location of specific files and data."

"By using computers, you develop a project database that you can pass along to the client when your work is done, and this has led us to being rehired for additional services."

"We find our employees more interested in their future with our firm as they see more opportunity to advance themselves."

"Quick development of real-estate feasibility analyses."

"Better able to manage our day-to-day operations because we have absolutely current information, and for the same reason we are better able to keep our clients informed on schedules and budgets. This ability has secured our position with larger clients."

"We're getting better prices from bidders due to the accuracy and 'finished look' of our drawings."

"Computers have put the fun back in my work," writes the principal of one-man firm.

"The time for preparing marketing proposals has been cut by 80 per cent; contract preparation time has been cut by 50 per cent."

"It saves enormous amounts of time and effort in space planning."

"Expands your base for doing new kinds of work and exploring new kinds of markets."

"The computer means you have to think through and organize all areas of your practice. And I really believe that is the most important benefit . . ."

"By eliminating most of the cut-and-paste work, by freeing the principals of 'busy work' in managing the business, and by speeding up production, we have more time for design, which is what it is all about . . ."

"It is easier to redo things that are not quite right—and easier to convince yourself to go back and get it just right."

Of the 383 respondents to the question on savings and benefits, 13 did volunteer that it was "too early to tell"—and only one respondent reported that he saw, in response to his investment, "no benefit."

Question 27: My advice to firms who have not yet invested in a computer system is . . .

Respondents were invited to complete that sentence, and there was one answer that dominated the replies (in just these words): "Do it. Do it. Do it. Do it. Do it now."

And there were some more specific comments. Samples: "Buy a small and inexpensive micro system to start and build your system incrementally along with your skills. Don't buy a big expensive system first."

"Our computer installation is just 400 square feet, with one computer and an associated printer. We plan to purchase additional equipment as the need arises."

"We're using a minicomputer as a micro computer and computer-aided design system."

"A small and inexpensive micro system to start and build your system incrementally along with your skills."

"Buy a micro today, start systems drafting tomorrow, and commit yourself to having a computerized office."

"A principal of a six-man office warned: "See ya later, Flintstone!"

"Buy with word-processing, spreadsheet tasks, and database management on a micro system. I'd buy for graphics to develop further."

"At least start investigating by attending seminars, meetings, and other learning sessions; and try to understand how the computer could impact your business."

"Get employee involvement, interest, and commitment before you buy."

"I'm a consultant," said a score of respondents. "Take your time, thoroughly investigate the software available and match it to your needs, then buy computer hardware and software that will fulfill your requirements."

"I'd wait a while, get more reliable computer hardware."

"We're using a minicomputer, and I wish we had waited for the powerful personal computers available now."

"I would have leased for awhile until it was sure what we should buy."

"In the future, if you're going to buy a computer, buy with the absolute minimum of software."
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Management: Understand what graphics can do

The author explains what to expect from "environmental" graphics and from your graphics consultant, and why graphics now mean more than telling people where to go

By John Gaudreau

We are just beginning to understand the power and problems of visual communication. Psychologists estimate that approximately 76 to 80 per cent of what we learn is conveyed through our visual sense. Yet visual communication, as we normally see it, is complex and fragmented. Not helping the problem, the amount of information that the average person must absorb each day is increasing rapidly.

The emergence of what we now call environmental graphics as an architectural discipline derives from the need for cohesive visual messages that separate essential information from the superfluous, and that bring clarity, simplicity, and order to our surroundings—all things that graphics should have been doing all along, but may not have without a freshly organized approach.

At its most basic, graphics must call attention, announce locations, offer directions, explain sequence, and promote products and services. Whether the facility is an office, retail store, or a public facility, a user's first understanding of it is most often through graphics.

Graphics designers should be concerned with function and esthetics and... They should be concerned with how people behave. Taking a broad view, this is no different from architecture itself, which can be called a stage for human experience. The concept here is that the validity of the architectural solution, and the graphics solution along with it, are, at least in part, ultimately determined by what the user experiences in the space. This experience involves more than functional relationships or image. It involves the pacing and the timing of action that occurs there. And that, to be successful, must be achieved by organized design.

We have all experienced the anxiety, confusion, and frustration of trying to find our way through an airport, convention complex, shopping center, or other major facility that is cluttered with unclear graphics. The result is a lasting negative impression that has little to do with the merits of the building design. Such conflicts are apt to occur if graphics are treated as an afterthought. They will lack logic and cohesion, even while they interfere with major building design elements.

Consequently, environmental graphics should be a natural adjunct to the conceptual design process in architecture and interior design. Rather than viewing signage and other graphics as independent physical elements to be ordered from a hardware catalog, architects and interior designers are becoming sensitive to the importance of graphics planning.

The graphics consultant should be brought in early. By approaching the project from the point of view of those traveling through it, the environmental graphics professional can make a substantial positive contribution to the project team, especially in early design development or even in master planning. At this stage, the architect, client, and graphics consultant should work in tandem to identify and deal with communication problems.

Take, for example, the design of an office building core. In planning circulation patterns, the architect and graphics consultant may approach the issue from very different perspectives. The architect is concerned with scaling the core to accommodate an anticipated volume of people (i.e., entrance/exit requirements for doorways, corridors, lobbies and stairs). The graphics designer considers movement patterns—how people will pass through the space—and determines the necessary placement and scale of the tools for directing them.

Potential design conflicts may result. A proposed directional element may impinge on a key architectural element. By dealing with these issues in the initial design development, the project team can avoid costly, last-minute modifications and achieve a unified design statement.

What you need, if you want an effective graphics program, are guidelines

An effective environmental graphics program is the result of a subtle interplay of forces: the building owner's desired image; the building's inherent design characteristics; the organization's operational requirements; and budgetary factors.

That is why these considerations should be studied in the early programming or master planning phase. In finding the ideal graphics solution to supply the necessary informational tools for the user, there has to be close interface between architect and graphics designer to affirm the logic of the solution and determine its impact on the base building design.

The new graphics can be a strong unifying force in an architectural or interior design project. When a graphics program is developed as an integral part of the design package (as illustrated by the examples on the next page), it becomes a visual extension of the project's over-all character. By its graphics, an organization says a great deal about its operations, professionalism, and success.

Graphics can convey a powerful message. Depending upon image and marketing objectives, multi-level visual messages such as posters, murals, kiosks, and other printed materials can be used to influence building users, as well as give them basic information.

Budgetary limitations for cost, life-cycle, and maintenance should also be established. And approvals may have to be obtained from appropriate regulatory agencies and community groups.

Finally, a graphics professional should provide a clear, well-defined timetable of the process from initial design to completion.

Within this framework, there are several guidelines to follow in creating a well-executed graphics solution.

1. Keep messages simple, straightforward and without visual clutter. As the user's first knowledge of the facility is likely to be through the graphics, the initial impression is a crucial one. An effective technique is to utilize large, bold text followed by smaller type and create a well-executed message.

2. Move from the general to the specific. As people pass through a space, the location, size, and height of directional graphics must communicate information in a logical pattern that relates to the pattern of circulation. Typically, the graphics message is reduced to more specific signage in corridors and departments. These messages must readily and clearly direct the viewer's attention long enough to transmit the necessary information.

3. Maintain graphics standards for unity. Continuity in typeface, palette of materials, finishes, or colors can be used as a unifying element in the graphics program. For example, if the sizes and style of dimensional lettering are carefully controlled, the result will be good visibility and a sense of consistency in location and direction throughout the space.

4. Provide built-in informational flexibility. This can be a vital consideration when the information content must be changed regularly, such as in an airport departure lounge or a retail banking hall. The design solution should allow for change while preserving the Continues...
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continuity of the over-all graphics program.

It is important to remember that all project requirements are not alike. Each facility should be approached independently. The consultant's graphic solutions should not be based on preconceived materials, hardware, or fabrication techniques. Solutions depend upon the magnitude of the project, as well as budget and image considerations that are unique to each facility.

Communication between all parties during the design process is a prerequisite for success. The interactive process of team discussion and evaluation should involve the client as well as architect and designer.

Presentations by the graphics consultant will be a key element. One effective approach in helping the team analyze major concerns is the "story board" technique, in which the graphics designer's skills are used to illustrate the interior geometry of the project. Such issues as sight lines, circulation patterns, tenant identification, and retail signage placement can be dealt with more effectively when the team can "see" the spaces through sketches and renderings. This discussion process should result in a better understanding of the value of environmental graphics to the project. Working toward a solution, the team learns from each other, and it is in working as a team that the best product can be developed. The objective is to arrive at a solution that fulfills all of the requirements that have been discussed here. And if the solution is inspired, it will also have that creative spark that is uniquely the designer's own.

What do you look for when you hire an independent graphics designer?

The graphics designer serves in a specialized advisory role similar to that of an audio-visual or lighting consultant. As with the selection of any other professional consultant, it is essential to evaluate prospective design firms. Of course, there are as many design philosophies as there are designers.

What criteria should be used? Portfolio, track record, and references certainly head the check list. However, some initial "homework" on your part is necessary before beginning the selection process. Establish a clear understanding of the project's image requirements and the scope of the work to be undertaken. What are the budget and schedule parameters? How important is it for the prospective designer to have developed programs for similar client types?

With these factors in mind, the following concepts should guide the evaluation of a designer's previous work:

1. A pretty picture is not necessarily worth a thousand words. Graphic designers are artists but, more importantly, they are problem-solvers. Don't look at the designer's portfolio strictly in terms of attractiveness. While fine art creates a new or more intense image of reality, graphic design should convey reality in a manner that is readily understandable to the viewer. A beautifully executed piece of artwork may not be the right communication solution.

2. The interview should be a "hoedown" not a "dialogue." You are now in the process of establishing a close working relationship with the consultant. How well does the consultant listen and respond? Did he or she come prepared with a clear understanding of the type of project that is being undertaken? The point here is compatibility and communication. If the work presented is professional and the dialogue between you is direct and effortless, the more likely that your working relationship will be a pleasant and productive one.

3. Learning the basis for a design solution is the key objective. Encourage the consultant to discuss the evolution of the design. Inquire as to what worked and what didn't work. Design is a process, a method of investigation and compromise. If the individual understands this, he or she should welcome the opportunity to relate how an idea became a reality.

4. A design solution may be more (or less) than its seems. Don't hesitate to challenge the project solution and implementation. By digging deeper than surface appearance, you may discover more about the consultant's flexibility and resourcefulness. Ask what cost constraints had to be met. Did unexpected factors affect the final design implementation (i.e., changes in budget, scheduling/supply problems, or unexpected modifications from the client)? If so, how were these problems resolved?

5. The graphic designer should be knowledgeable about architecture and interior design. Just as the architect and interior designer must be sensitive to graphics issues, the graphics consultant should understand architectural concepts and processes.

The author's designs for graphics at the San Jose International Airport illustrate some of his points. In the top two views, getting the information to be conveyed in the right sequence for the viewers' movements means first identifying that information is going to be conveyed, and then getting it across in the right size and order for comprehension.
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Practice:
Comes the facilities manager

Concluding her examination of this new phenomenon, the author gives insight into the type of client that design consultants doing corporate work may be dealing with.

By Ann Nydele

Last month (see RECORD, May, pages 51 and 58), author Ann Nydele described the rise of facilities management from a "basement operation" doing staff support to its current high standing as a vital part of long-term corporate planning. She gave the reasons for the rise as not only the need to make order out of corporations' more complex demands, shifts, and environmental concerns, including new technologies, but the growing portion of a given company's assets that is likely to be tied up in real estate—many corporations, in fact, having taken on a whole secondary business. In studying the way in which facilities managers may take over more of the design professionals' traditional responsibilities than clients in the past, she rightfully observed that many architects, engineers, and interior designers are worried.

An interview with Ben Cubler, the head of the facilities department for one major corporation, ARCO, revealed both the objective and subjective qualities that a corporation may look for when hiring a design consultant. Herewith, the way that consultant will be dealt with once hired, how one prominent design consultant responds to all this, and a view by one prominent educator on where facilities management may be headed in the not-too-distant future. C. K. H.

ARCO currently has five projects under way. For each, its construction manager has hired the prime contractors and reports to the company president's team, which numbers up to nine people on one project. Officially, the construction manager gives his input to the project team, which relays it to the architect. Unofficially, everyone works closely together. The construction manager and, on smaller projects, the general contractor come on board at the same time as the architect, or immediately after, under what is called a "preconstruction services contract." The company's project team monitors the design development from the conceptual phase through the final working drawings, with either the construction manager or general contractor doing feasibility evaluation and cost methods evaluation of developments as they go along. This means they are watching constantly.

Cubler encourages constructive disputes between his construction managers and the consulting architects, "because most good solutions are a compromise between functional and hard cost decisions, and aesthetic concerns. What we do is assure that everybody else is doing his own job, and that we're getting service out of the architect." With "healthy competition," Cubler feels, you get a good compromise—you don't get tilted one way or the other.

"What you're looking for is a compromise between the esthetic solution and the best functional solution. And our project team will pull that out of the process. I'm an apostle of in-house capability," he affirms. "Still, we don't do design; we don't do architecture; and we don't do construction management, at least, in the classic sense."

Cubler does recognize that the ideas come from the architects and states that it is important not to impede the flow of ideas. But he also says: "Anyone who is there in a consulting role is there to make recommendations, and the role of the facilities manager is to review the recommendations and come up with a final set of recommendations for the executives to review."

This lack of architects' access to top management has, concedes Cubler, caused some friction.

"Looking at it from an internal point of view, you have better control over consultants when you control their contact with our people, who only know about specific areas. If the facilities manager can provide as much intelligent information as possible to the consultant, then the job should go smoother and cost the client less and still be a quality product."

Having heard the other side, here is how one prominent architect responds

"Architects," says Arthur Ginsler, head of Ginsler and Associates, one of the country's largest firms and one with wide experience in corporate architecture and interior design, "can manage the financial aspects of a project, but our industry is receiving strong criticism for this score. "As in any industry, Ginsler says, there are those who are inept in the financial area. "But I think most of the major firms doing competent corporate work recognize that they have financial responsibility as well as a design responsibility, and that they're equally important."

Still, he believes, for reasons he will develop later on, that cost problems can come for reasons beyond the architect's control with or without a facilities manager. And these problems become particularly acute when it gets down to doing interiors, because interiors are done at the end of the project. "Any slippage in cost versus budgets that happened when a project was in its early stages becomes amplified at the end of the project. So all of the problems that occurred in the front end, if there were those, ultimately end up being reflected in the interiors budget. And I'll tell you why this is important."

"This tends to put things out of balance because of the close attention given to every phase of the immediate environment, while ignoring the building systems once they're in place. If you look at a chiller, at insulation on a pipe, or at a computer system, the management and the people who use it don't have any personal relationship to it. They don't know what is inside the walls. But they care very much about the chair they're sitting on, the carpet under their feet, and the light on their desk. And that's where the people that are really going to use a facility notice a difference, especially if there are inadequate or unrealistic budgets established for what they perceive as their environment.

"It's a matter again of the client being realistic about the allocation of an adequate budget in the beginning of the job and maintaining control over his people." Here he begins to touch on one reason why a project's cost may get out of hand.

No matter who the client is, there can be changing demands after a project's scope is set

Ginsler also talks about the effect of time on the budget, which can bring factors rarely discussed at the onset or anticipated. Especially in large corporations, management will spend a great deal of money every year on shifting people around, and new projects taking on projects for that company are designed and built. "If you take a half-million-square-foot user," he explains, "he might move 20 per cent of his space at a cost of $100,000. That move. There might be $4 million spent every year to remodel or refit that space."

"However, when you build a building, you might say that it takes place in a time capsule, as though nothing is happening in corporate shifts. Often, therefore, when we're doing a project, there will be a major reorganization, in which case the company will be acquired, or a new technology will be introduced into the organization. As much as you try to build in an environment to accommodate for change, you may not be able to answer all of the new issues that are raised."

"But the facilities manager," he continued

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points out, "doesn't look at that change as a change to the original scope of the budget for your project, but as though it should have been included from the beginning. Thus, changes are regarded as a change order that is required because the job wasn't done right the first time. That is not correct," he maintains. "The job was done right the first time. The problem is that you have change taking place while the project is going on, even as change happens when there is no project in progress."

One example of the kind of change that can happen occurs when a client wants a discrete building, designed for a specific kind of business. Through a merger or other event, he then finds himself in the position of having to sell a building that won't fit potential purchasers' needs. "The rate of change that is happening in the world today does not give companies the luxury of trying to make things quite so specific," he pointedly observes.

Some of the problems with facilities managers can spring from their experience. While some major corporations have highly developed and sophisticated facilities operations, there are many that do not. Gensler cites as reasons, the short time span for the demographics and the lack of training that is available. "The International Facility Management Association," he says, "started five years ago and spent the first five years crawling; now they're slowly walking, but they're hardly running yet."

"There is an almost zero body of literature and, up until recently, zero education about real estate. And although degrees are now being offered, the programs are limited. What you find out is that many of these people have converted from other disciplines: they are accountants, businessmen, or architects. Therefore, during this transition, they are groping as much as everybody else."

"From this point of view, you have to go back and analyze what's happening. All of a sudden, companies recognize that real-estate facilities are an important part of their asset base. In some cases half their asset base, and they ought to manage it, as they manage everything else that they do."

"Historically, this was under the comptroller or the treasurer who collected rents and paid the bills for heat and light. But these people are not knowledgeable about real estate, or construction, or building design, or, often, even facilities operation. And so it is that many people in this group have been given this assignment of running buildings and their design with little training or experience in this area. They may be strong in one area and weak in another by the nature of their background, but they don't have the whole picture. That's one side of the issue."

Another part of the problem in dealing with facilities managers lies with the architects themselves. Gensler also chides architects for, in some areas, backing away from the responsible role of leadership that they used to play at the head of the team. "When architects are concerned about liability, they don't want to take the risk."

At the same time, clients are trying to keep the pressure on the architect for the liability and accountability. "Many clients," he says, "are willing to pay to put the consultants who ultimately take no responsibility, but these same clients keep whacking away at architectural fees, trying to drive them down."

"What we are finding," he says, "is that we're having to do a great deal of project management, but we're not getting paid for it. They will pay attorneys $100 per hour, but object to paying $50 or $60 per hour to an architect who is taking responsibility for a lot of their money."

"However, clients are changing," he believes, "and some are recognizing that everybody on the team ought to make a profit. We are going back to the idea that if you're a sophisticated user and you really want the job done right, you will recognize that the success or failure of the project is made in the beginning, on the basic gut-decision information. They have to get the brainy of offering them two or three people so that they can see who they'll be most comfortable with during the course of what is at least a partial marriage. There's chemistry and a trust and a bond on a good project team in which the client is obviously the pivotal member."

"Large firms can have talent that is specialized and will provide support, and there is a need for large-scale support in these large-scale projects. But there can't be a standard format; if the facilities group is stubborn, you have to get somebody in your organization who can work with a stubborn person. If you can't, you probably shouldn't take the job."

Gensler tries to handle disputes on the level at which they occur. When, in the client's explanation of what is wanted, there is a point at which a basic decision about a new facility has been made that is wrong, he tries to get an opportunity in the review process to make presentations that will show what the client is asking for and alternatives that the firm wants them to consider. But there can be a lot of questioning of the architect by the client. "We can go through a period of doubting and second-guessing," he says.

However, by and large, Gensler believes that most of the professional staffs of facilities groups are very professional, and do an excellent job of providing support for the architect because they understand what the architect is trying to accomplish. "Especially if they are architects, they can talk to other architects and communicate the corporate needs better than can businessmen," he concludes.

Where is this new relationship of design professional and corporate officer altering the practice? Some of the changes and concerns that are currently occupying the attention of facilities managers and architects alike are coming from Europe, where mandatory standards are being legislated for the working environment as a result of the new technologies. "In the U.S., I think," says Ben Cubler, "companies will be like to take the position of voluntarily providing protective work environments for their employees, to take care of the problems without having the state or Federal government impose new issues."

He believes productivity issues and employee concerns will be more unified in the future as corporations take on long-range planning, and that the activities of facilities managers will be tied even more directly to that long-range planning. Companies are integrating systems, facilities, and human resources with automated office machines, communications, and data processing. "Through a joint effort, all parties are working together to provide an effective environment," says Cubler.

The "facilities phenomenon" is now receiving a response from education in the form of a program at Cornell University that is designed to teach technology and design to business and financial planning. Cornell's facilities planning and management program, offered by the Department of Design and Environmental Analysis, gives students both an undergraduate degree and the choice of going on to the first graduate program in facilities management. The curriculum is presented in four areas:

- **Human environmental relations**—focusing on both the individual and the organization, in terms of productivity, interaction, safety, and health;
- **Technology and design**—space planning, automated technology, and interior design;
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- **Real estate development practices**.

At the same time, it is interesting to note that MIT is offering a doctoral program in real estate development. Headed by Director Henry Spaulding, MIT's Center for Continued

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Real Estate Development offers an M.S. in real-estate development, and also serves as a center of research on the development process. For the practicing architect, there are a number of catch-up programs in New York City, San Francisco, and other places. Other colleges, such as Cambridge College in Massachusetts and Penn State, offer a variety of degree programs for practicing architects who may want to apply their skills to real estate or facilities management.

"We graduated our first batch of students in 1985," says William Sims, head of the Cornell University department, "and they are being offered positions in major corporations for starting salaries of from $25,000 to $30,000. The shortage of qualified people for facilities management jobs is making this, along with a lot of jobs in new facilities consulting offices, a fertile field for architects and other professionals. It will provide opportunities for years to come."

The impetus toward professionalized facilities management is coming from, among other considerations, a realization that the working environment and productivity are related, says Sims. He cites two studies, the Brill Study and the Orbit II Study in which the collaborators are Franklin D. Becker, a Ph.D. and an associate professor in the Cornell program, the Harbinger Group at Xerox, and now an architectural and space planning firm. These studies show that a narrow overview by management in which workers are "squeezed down" is not working. Now, corporate financial people are becoming aware that the physical setting can be as important as other benefits to the employee and can affect productivity and morale positively. At the same time, working with human resources people, corporate managers are seeing the importance of establishing better working patterns, ergonomically designed furniture that is adaptable and relieves back strain, and lighting systems that minimize eye strain from light reflected off computer screens.

And there are new problems with existing facilities. For instance, says Sims, the introduction of computers into older buildings that were not designed for them can create overheated areas resulting from the density of people and machines. Such buildings need retrofitting as systems wear out and the buildings prove poorly designed for the needs of information technology and of change and growth in the owner's organization. Through a company of their own, The Orbit Project, Sims and Becker are looking at studies that describe the impact of the corporate organizational changes on building systems so that those changes can be anticipated for future retrofitting.

The optimistic view is that there are new opportunities for design professionals. Sims believes that the impact of the facilities management concept on architects should be positive. "It will be the facilities manager's role to identify the characteristics of his own corporation's particular kind of management in the process of selecting an architect, and to manage the design program. This shifts that responsibility from architectural firms to the corporation."

"But architects don't have to see themselves as threatened by the efforts of corporations to exert more control over their building programs," says Sims. "This is both inevitable and proper. It is a proper activity for corporations to do their own programming and to look inside the design process and critique it, always allowing the architect scope for the creation of ideas. The result will be a better building."

"At the same time, some architectural firms are adding facilities planning and financial services to their operations, just as in the '60s, they added urban design and city planning to meet that need. Not all corporations have large, well-staffed facilities departments." Sims points out, "and architectural firms can serve those corporations either with their own facilities management services or by joint venturing with other consulting firms that offer them."

"Over the next decade, the facilities management process will provide increased jobs, more informed clients, and better client directives that will give the architects a stronger sense of how to handle projects. By providing back-up services that are needed, the facilities management process can help the architect to concentrate on doing the architecture and providing the client with a beautiful building that will work better in meeting today's changing, highly complex technological requirements and new approaches to employee management."

Over the next decade, it is going to be vital for architects who want to do corporate work to understand the philosophy, problems, and methods of the corporate facilities manager. At the same time that the facilities manager is offering challenges to the architect's traditional ways, he is offering opportunities to do things in a new way. And we only can hope that new way will be a better way. Continued
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So next time you're trying to decide which paint to use, talk to the company with a lot more than paint.

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Facilities managers
do bear credentials
from the past

As we now know it and as a
phenomenon, facilities management
is less than five years old. In 1979,
the Facility Management Institute,
an educational and research
organization of the Herman Miller
Corporation (but now independent
from it), studied 800 U. S.
government and business
organizations. They found that
individuals involved in facility
decision-making included "facility
professionals; administrative and
office services professionals;
engineers; building services and
maintenance professionals;
personnel professionals; and
purchasing professionals," with the
largest category (26 per cent)
having the term "facilities"
somewhere in their title.

The study then concluded that
a very small proportion of corporate
executives were involved with
facilities management although, in
smaller organizations, the president
might be involved. Among the 800
organizations surveyed, 27 per cent
had a "facilities" department and 10
per cent had no such organization.
Finally, most of the facilities
"professionals" that did exist were
on the middle management level,
with only 20 per cent termed
"director." Fifteen per cent were
planners and designers; seven per
cent engineers, and five per cent
architects. Of the vice presidents or
assistant vice presidents, only six
per cent were involved with
facilities. Thus, the facilities
manager was a person who most
likely had the responsibility to carry
out policies made by others.

The emergence of facilities
management as a science probably
began with the "paper flow"
theories of the Quickborner Team, a
group of management consultants
operating in post-World War II
West Germany. With half a country
to rebuild and a methodical culture
behind it, the Quickborner Team's
theme said that office layouts
should reflect the flow of paper and
the movement of people for
maximum efficiency. It resulted in
the so-called "office landscape."

The idea caught on quickly here,
as American corporations
experienced rapid expansion in the
1950s because both lower cost and
flexibility could be met by the
concept.

The Herman Miller Corporation
quickly adopted the idea, creating a
furniture system with demountable
and interchangeable elements
attuned to movable partitions.
Despite problems, the idea
flourished and other manufacturers
quickly followed with systems of
their own. The contract boom of the
1960s and the influx of behavioral
scientists into the picture with their
concept of "individualization" in
the workplace further encouraged the
concept of open plan.

As major open-plan installations,
such as those for Eastman Kodak,
John Hancock, Sperry Univac, and
Purdue University were made, a
group of managers—administrator
Herbert Dean of Eastman Kodak,
space planner Jordan Berman of
John Hancock, designer Robert
Branchen of Sperry Univac, and
Robert Sorensen of Purdue
University—joined together to form
the Office Landscape Users Group
in Philadelphia. They conducted
regular seminars and conferences
for other managers who were
going into open planning. Formed
in 1969, and still operating under
managing director Frank Carberry,
the group is probably the first
formal facilities management
group.

In 1979, Herman Miller's Bob
Propst established the now-
independent Facility Management
Institute in Ann Arbor (now headed
by John Adams) to provide an
educational and research center for
the study of facility management.
Propst, in fact, is credited by the
International Facility Management
Association's Gerald Hubbard as
being the first to realize that
corporations needed to centralize all
of their diffuse activities going on
that are related to facilities. The
institute also produced the first
working definition of facilities
management: "The practice of
coordinating the physical workplace
with the people and work of the
organization. It integrates the
principles of business
administration, architecture, and
behavioral and engineering
sciences." Today, the institute
might well add financial
management to this list.

In addition to the previously
mentioned groups, there are several
other facilities management
associations now. The International
Facility Management Association,
formed in 1980, is the largest.
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In this article—abstracted from a larger, more general essay, "Beaux Arts, Bauhaus or Basic"—Gerald McSheffrey makes a strong stand towards closer integration of construction, practice (and computers!) in architectural education.

"Architecture, Gerald McSheffrey"

To keep on repeating that old saw that architecture is both an art and a science, as if that makes us more important, is also specious, since every art contains some science and every science, some art.

Aristotle tells us: Architecture is an art that is, in essence, a rationally creative state of mind. The making of art is not a rationally creative state of mind nor any such state of mind which is not an art.

When we emphasize the technological aspects of architecture and separate them from the whole creative process, we do a disservice to education. Moreover, we are just repeating the mistake of the Victorians by encouraging further the separation of architecture and construction. It is also this attitude that lays the architectural education process open to charges of vocationalism.

Teaching construction should not be separated

The detailed study of a window section and the drawing of an essay are two very different types of activities. On the one hand, we may find that one presents the solution to a problem, and the other explains the nature of a problem. But, who is to say that one activity is more valuable than the other, or that the emphasis on one precludes knowledge of the other? Much of the process of architectural education in the past has been one of learning by doing. I believe that this is one of its strengths. For example, I am an exponent of teaching construction on the basis of lectures without the reinforcement of studio sessions. The best way and place to learn construction is, of course, on the building site—but that takes more than a lifetime.

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Architectural education continues to be a necessity, will continue to be user friendly, it will have no significance—other than that of the professional. The spatial/functional and psychological needs are, of course, of paramount importance to those future architects. The decisions concerning structure and materials, the careful detailing of windows, the choice of door hardware, light fittings, finishes, light, and color comprise a palette of multifarious elements from which decisions must be made.

The mature and rounded student should understand how and why such diverse sources are made at the time he or she graduates. In addition, those graduating with professional degrees should be encouraged to specialize in professionally related areas such as business and construction management, real estate and development, computer-aided architecture and urban planning or in research.

Graduate education should provide architects with opportunities for exploration and for original research. My own view is that the purpose of graduate education should be to enlarge the range of specialized knowledge and to advance the standards of teaching and practice. There should, therefore, be a credible gap between undergraduate and graduate education, with a higher level of expectation in the quality of the student who has attained a higher degree. It is difficult to even create this level of expectation if graduate education is seen as an extension of what has gone before.

There must be clear commitment to research and research methods if education is to offer leadership to the profession and industry rather than vice versa. Our graduate education models should reflect this commitment. Just as faculty in universities are given opportunities for renewal and development through the sabbatical process, I would hope that practitioners will take time off for renewal and to explore their ideas through graduate programs in research and through teaching.

Historical references still have impact

Finally, even with the onset of the 21st century, I am still captivated by Sir Henry Wotton's 17th-century definition of "commodity, firmness, and delight" as the constituents of architecture. He was, of course, paraphrasing the Vitruvian trilogy of durability, convenience, and beauty:

Durability will be assured when foundations are carried down to the solid ground and materials wisely and liberally selected, convenience, when management of the apartments is faultless and presents no hindrance to use and when class of building is assigned to its suitable and appropriate exposure; and beauty, when the appearance of the work is pleasing, in good taste, and when its members are in due proportion and correct principles of symmetry.

We should continue to offer students the most important ingredient in their education: ourselves as teachers, our own. And while it is difficult even looking at current trends to predict accurately the nature of change for the profession, it is clear that the rational problem-solving nature of what has been taught in many of our best architectural programs should be maintained. It is equally important also to maintain in our schools the quality of skills, and, more important, the whole idea of visual quality.

Last, but not least, I believe it is imperative that we continue to expand our emphasis of the social purpose that is inherent in everything we do. It would be ironic and typical of these times, if in the search for social relevance in architecture, knowledge of computer languages such as Basic or Pascal may prove more critical to the future of architecture than historically based philosophies.

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Size: 2'6" x 8'0"

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For complete information, details and specifications see Sweets General Building, Industrial Construction and Engineering Files, or send for a copy.
Reinterpreting a classical past:  
A new mixed-use project in San Francisco

San Francisco’s Van Ness Avenue, once lined with grand two-story automobile show rooms, is gradually evolving into a medium-rise residential and office district. A good example of the kind of architecture that may characterize the boulevard’s future, Daniel Burnham Court is a mixed-use development comprising 245 condominium units in two towers joined by a 65-foot-high glass atrium. Named after the great Chicago architect who worked extensively in San Francisco after the 1906 earthquake, the 506,000-square-foot project will feature an office/retail podium clad in terra cotta, stepped glass terraces, and picturesquely massed hip roofs—details that architects Wurster, Bernardi and Emmons hope “echo the residential buildings that climb the nearby hills.”

Lofty ambitions

Although the glass-topped atrium has become something of a cliché in many new and renovated commercial buildings, that much-used architectural element, when done right, still has considerable visual impact. Witness plans for Curtis Center, a 760,000-square-foot office conversion project on Independence Square in Philadelphia that will transform the open delivery courtyard of a former publishing company headquarters into a soaring, 12-story-high atrium. With its patterned marble floor, 32-foot-high columns topped by palm-planted capitals, and sculpted fountain, the 10,000-square-foot vaulted space will be a spirited contrast to the building’s stately neo-Georgian exterior, designed in 1909 by Edgar V. Seeler. Architects for the conversion, which is scheduled for completion this fall, are Oldham & Selz.
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News briefs

The Aga Khan has announced a ten-year extension of a program in Islamic architecture that was begun at Harvard and MIT in 1979. A new grant of approximately $900,000 per annum is meant to insure expansion of the joint venture to include an advanced degree program in Design for Islamic Cultures.

Benjamin Thompson has been named the winner of the 1985 Louis Sullivan Award for Architecture, given biennially by the International Union of Bricklayers and Allied Craftsmen to honor design excellence in masonry.

The Frank Lloyd Wright Foundation has announced the establishment of a program to manufacture and sell authenticated reproductions of Wright’s decorative designs. The five manufacturers and retailers selected to work with the Foundation include Cassina S.p.A. and Atelier International (furnitures), Tiffany & Co. (china, crystal, and silver), Schumacher (fabrics and wallcoverings), and V’Soske (rugs). The initial designs are expected to be on the market early next year.

The New York City Landmarks Preservation Commission recently celebrated the 20th anniversary of its founding in ceremonies at City Hall. In its first two decades the commission has designated as landmarks over 700 individual structures and 48 historic districts throughout the city’s five boroughs.

William Pedersen and Arthur May of Kohn Pedersen Fox Associates were named joint winners of the 1985 Arnold W. Brunner Memorial Prize in Architecture, awarded annually by the American Academy and Institute of Arts and Letters.

The world’s tallest building may be the result of a plan to redevelop the four-acre New York Coliseum site in midtown Manhattan. Among the 14 proposals recently submitted to the city were three towers designed by Eli Attia and Associates, Murphy/Jahn Architects, and Skidmore, Owings & Merrill that would rise higher than Chicago’s Sears Tower, the current champ. The city’s Board of Estimate is not expected to pick a winning scheme until late next year.

The Egyptian Museum in Cairo will be renovated in a joint venture between an American and an Egyptian firm. The American partner is The Architects Collaborative, working in association with the Arab Bureau for Design and Technical Consultations of Cairo.

Updating an architectural archetype: Two projects in Boston and Pittsburgh

A renewed interest in the setback tower, the architectural form that virtually defined American skyscraper design during the 1920s and ’30s, continues to characterize current high-rise building projects. Even The Stubbins Associates, a firm best-known for such elegantly sheer, freestanding towers as the Federal Reserve Bank in Boston and Citicorp Center in New York, have joined the historicist bandwagon. For a 28-story office tower near Boston’s South Station (left), the architects have proposed a 689,000-square-foot structure whose stepped massing is meant to echo the zigzag profile of an adjacent Art Deco office building. Sheathed in reflective glass with white mullions, the structure will boast two bow fronts, intended to “give the building an exuberance of form,” according to Hugh Stubbins.

And for downtown Pittsburgh, the Stubbins office has designed a striking 30-story tower clad in polished granite piers flanking glass curtain walls (right). The structure’s slotted pyramidal crown is a geometrically abstract adaptation of the elaborate tops that articulated many early-20th-century architectural progenitors. Associated architects for the project are Williams Trebilcock Whitehead.

Post-Modernism hits the road

Let McDonald’s, Burger King, Pizza Hut, and other fast-food chains continue to litter the American roadside landscape with their pseudo-mansard boxes. Arby’s, the country’s seventh largest fast-food outlet, feels it has an esthetically more pleasing way of purveying its roast beef sandwiches and chicken dinners. As part of an over-all plan to upgrade its image, the Atlanta-based firm has built its first “new concept” restaurant in Louisville—a 3,700-square-foot facility designed by FABRAT Architects that Arby’s intends to test as a working prototype for future restaurants. In order to “create a better dining experience” (company’s words), the architects have designed the upscale-looking eateries with such post-Modernist touches as curving walls of smoothly finished exterior insulation material painted in stripes of mauve, rose, and burgundy; neon banding; and a formal entrance pavilion marked by a tall pole. Startlingly serene when compared to the exuberant highway architecture of the 1950s, the new Arby’s may represent the last word in corporate efforts to bring good taste—at least in terms of design—to those who eat their meals on the run.
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Mountainside structure to house Birmingham science museum

The Red Mountain Museum in Birmingham is a multidisciplinary science center located on the site of an expressway excavation that reveals layers of limestone, iron ore, and coal—the natural materials that played a crucial role in the development of the Alabama metropolis as a steel-making center. As part of an over-all plan to expand its programs, the museum has initiated an ambitious proposal for a new 102,000-square-foot facility. Designed by E. Verner Johnson and Associates, the building will exhibit a linear configuration that was developed in response to a narrow, mountainside site. The structure's most unusual feature is its combination of exterior materials and colors: red stone symbolic of the region's geology will sheath the ground floor, while upper stories will be clad in tan cementitious panels alternating with green, metal-covered angular bays—all to be topped by peaked, barrel-vaulted, and flat silver roofs. Visitors will be greeted by a three-story-high rotunda lobby (polygonal pavilion in model views) that leads to exhibition space, an auditorium, and an orientation display for outdoor interpretive walks accessible via a pedestrian bridge.

A new role for the 19th hole

Responding to a request by the Turnberry Golf Club in Scotland, the American firm of Kaufman Black & Lyons has designed a prototypical facility combining a traditional clubhouse with a terraced rooftop viewing stadium. The unusual scheme reflects the growing popularity of golf as a spectator sport and features two wings that overlook the 18th hole. Although the facility was designed with octagonal turrets, crenelated parapets and other features that allude to its Scottish context, the architects claim the structure is adaptable to any fairway site.

Seattle project to bridge downtown expressway

Designed to occupy the air rights over Interstate 5, the new Washington State Convention and Trade Center in downtown Seattle will comprise a 300,000-square-foot exhibition hall and an elaborately terraced network of landscaped pedestrian parks and plazas. Architects for the highway-spanning project are TRA + HNTB, with Pietro Belluschi and Danadjieva & Koening Associates.
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Morgan Keegan Tower is a 21-story office building under construction in downtown Memphis that at 402 feet will be the tallest structure in the Tennessee metropolis. Clad in Italian red granite, architectural precast concrete, and glass, the 383,000-square-foot tower is part of River Center, a development that will include a second office building, a hotel, and parking facilities. Architects are 3D/International.

An office obelisk in Orange County

A proposal for the tallest office project to date in southern California's burgeoning Orange County calls for a 24-story commercial tower, clad in precast concrete panels and reflective glass, and an adjacent six-level parking facility. Crowned by a decidedly post-Modern metal-and-glass pyramid, the 475,000-square-foot structure was designed by Daniel L. Dworsky and Associates.

Ithaca is not your typical upstate New York town. As the home of Cornell University and the site of some of the most spectacular gorges east of the Mississippi, the community has always been something of a mini-San Francisco—an alluring combination of urban sophistication and rural natural beauty. As such, the city suffers a chronic housing shortage, fueled in part by Cornell students who simply don't want to abandon the city's charms after graduation. That problem may soon be eased somewhat with the construction of Eddygate Park, a privately sponsored, mixed-use development of apartments and street-level shops rising above a city-owned parking garage. Located directly adjacent to James Stirling's new performing arts center, the four-story project will be grouped around two landscaped garden courtyards that command views of Cayuga Lake and the central New York countryside. Peaked roofs, projecting bays, and facades sheathed in a combination of brick and synthetic stucco are details meant to harmonize with the domestic character of the surrounding neighborhood. Project architects are Hoffman O'Brien Levatich & Taube.

Revamping a Deco dowager

Fifteen years after it was vacated, the old YMCA in downtown Akron is about to get a new lease on life. The striking 1929 Art Deco building will be converted into a mixed-use facility comprising 55 rental apartments in the tower and 45,000 square feet of YMCA office and recreational space on the first four floors. Restoration architects are Trivers Associates, in association with Hecky Levy Architects.

Competition calendar

- Hispanic students and young professionals from 10 northeastern states are invited to submit entries to the annual Hispanic Talent Search Architectural Competition. Prizes totaling $5,000 will be awarded. Entry deadline is September 9. For information contact Mary Strowbridge, Castro-Blanco, Piscioneri and Feder Architects, 10 East 39th St., New York, N.Y. 10016 (212/888-6220).

- A call for entries has been issued for the first triennial King Fahd Awards for Design and Research in Islamic Architecture. Open to students and recent graduates, the program will award prizes totaling $100,000 to 20 entries in design and research categories. Entry deadline is December 30. Write King Fahd Awards Office, Research Center for Islamic History, Art and Culture, P.K. 24, Besiktas, Istanbul, Turkey.
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1. Church Court Condominiums, Boston, Massachusetts; Graham Gund Associates, Architects. Two walls and a tower from a fire-gutted Romanesque Revival church in Boston's Back Bay were incorporated into a seven-story, 43-unit residential project. The jury called the complex "a masterpiece of contextual design. Using colors, forms, and a variety of materials that resonate with the spirit of the neighborhood, the architects have taken pieces of the city and transformed them into something distinctive and new, but completely at home on its site."

2. Roosevelt Solar Village, Roosevelt, New Jersey; Kelbaugh + Lee, Architects. A housing complex for the elderly comprises an intimate 21-unit enclave of attached, shingled cottages and a three-story brick community center, all enclosed by a wood lattice fence. Extensive provisions for passive solar heating and ventilating include solariums, unvented Trombe walls, direct-gain windows, and solar vent stacks topped with rotary ventilators. "A model of low-income housing for the elderly that is at once domestic in scale, energy efficient, beautiful, and fully cognizant of human needs," observed the jury.

3. Residence at Chilmark, Martha's Vineyard, Massachusetts; Robert A. M. Stern Architects. The jury noted: "This summer house is a beautifully designed object that, through its fresh interpretation of the New England shingle-style coastal cottage, evokes a clear sense of place. Both the inventive exterior and the warm and comfortable interior are marked by skillful construction, detailing, and craftsmanship."

4. San Juan Capistrano Library, San Juan Capistrano, California; Michael Graves, Architect. "Through its scale, indigenous materials, and spatial invention, this library is a masterful transformation of the Spanish mission vernacular into a modern composition," noted the jury. "The plan is original and brilliant, with the organization of spaces and functions around the courtyard offering natural control of light and climate while creating the spirit of a small town."

5. The Atheneum, New Harmony, Indiana; Richard Meier & Partners, Architects. The jury called this visitor orientation center "a breathtaking gateway to the historic utopian village of New Harmony...a highly personal vision of an architectural ideal. The design's striking sculptural elegance stands in stark contrast to the evidence of an earlier search for the utopian and presently compels thought about the town and its significance. Its special beauty is infinitely intriguing and stands as a beacon of inspiration for artistic expression. The Atheneum begins the journey not only to New Harmony, but also to a new way of looking at American architecture."

6. Charles Shipman Payson Building, Portland Museum of Art, Portland, Maine; I. M. Pei & Partners, Architects. (RECORD, November 1983, pages 108-119). Located on a major public square amid landmark brick structures, a museum expansion project was praised by the jury as "a compelling building that enriches its community without overpowering it. The elusive and surprising interior is ingeniously organized and graced by an extraordinary quality of light and space."
to look more favorably upon projects that expressed a strong
dependence on basic architectonic principles... and we valued
solutions that were urbanistically appropriate or socially useful
to their communities." Although the jurors were heartened by
what they perceived as "the idealism that continues to inspire our
country's architecture," they observed that the number of
submissions of multiple housing projects in lower- and middle-
income ranges was "disappointingly low, reflecting the neglect of
subsidized housing by the Federal administration." In addition to

Polshek this year's jurors were Alejandro Barberena, AIA, of
Austin, Texas; Thomas L. Bosworth, AIA, of Seattle; Robert
Campbell of Cambridge, Massachusetts; William H. Grover, AIA, of
Essex, Connecticut; James Kalsbeek of Cincinnati; O. Jack
Mitchell, AIA, of Houston; Roger Schluntz, AIA, of Tempe, Arizona;
and Harry Weese, AIA, of Chicago.

Awards news continues on the following page with the results of
the renovation and reconstruction program sponsored by the
American Wood Council.

7. Pacific Town Houses, Santa
Monica, California; Rebecca L.
Binder and James G. Stafford,
Architects. Four town houses
located in a densely built-up
oceanside neighborhood were
designed to take advantage of
Pacific views. The jury particularly
liked the project's vigorous
geometry and high-tech imagery,
which they characterized as "a new
vision of post-industrial housing."

8. Tidewater House, Eastern
Shore, Maryland; Hugh Newell
Jacobsen, Architect (RECORD, mid-
April 1984, pages 74-81). A serene
composition of four connected
pavilions sheathed in clapboard
and glass characterizes a shorefront
weekend and summer house. The
jurors admired the building's
"freshness, simplicity, and
restrained profile against the sky," and they had special praise for the
architect's ingenious application of
louvered shutters, which serve as
sunscreens when raised to their
horizontal position and vandal-
resistant walls when lowered.

9. Weyerhaeuser Technology
Center, Tacoma, Washington; Skidmore, Owings & Merrill,
Architects. For a research,
development, and engineering
facility on a 480-acre site, "the
architects have drawn upon the
richest traditions of American
Modernism to create a strikingly
handsome building carved out of
a rugged natural setting. Almost
effortlessly, the building
accommodates its multiple uses,
offering smooth transitions from
office to laboratory to engineering
facility to social space. With its
cedar and glass exterior shaded by
the densely wooded site, the
building is not so much an object in
its environment as an integral part
of its environment."

10. Pike Place Market, Seattle,
Washington; G. R. Bartholick,
Architect. Faced with demolition in
the 1960s, a 22-acre market district
was saved by a voter referendum
and restored into "one of the best
mixed-use environments in the
United States," in the jury's words.
"One of the [project's] most
appealing aspects is a quality of
authenticity: the design is clean,
spare, handsome, consistently
interesting, never predictable, and
always faithful to its long and
colorful history... a place for
interaction among all members of
the Seattle community."

11. AB Volvo Corporate
Headquarters, Gothenburg,
Sweden; Mitchell/ Giurgola
Architects. An elongated formal
entry circle reminiscent of a
Swedish farm court sets a dignified
tone for the headquarters of a
major European automobile
manufacturer. The jury praised the
architects for their "remarkable
capacity to operate with grace and
ease within a cultural esthetic other
than their own. The building
expertly merges art with
architecture, creating an
atmosphere of elegance and quality
rare in corporate environments."

12. Middlebury Elementary
School, Middlebury, Connecticut;
Tai Sook Kim/Hartford Design
Group, Architects. For a 50,000-
square-foot public school, the
architects specified red brick and
white concrete-block walls—a color
combination that alludes to
traditional red-and-white New
England barns. Another regional
reference is a two-story skylit
circulation spine, meant to suggest
a covered bridge. The jury lauded the
evocative imagery and called the
school "a marvelously refreshing learning environment."
The American Wood Council, an alliance of wood manufacturers and trade groups founded in 1969, sponsors two biennial design awards programs—one for new construction and a second for renovation and reconstruction—that honor nonresidential wood architecture. The 1984 renovation program attracted 173 entries and resulted in the 12-award-winning projects and one special citation shown here. The jurors were Joan E. Goody, AIA, of Goody, Clancy & Associates; Joseph Esherick, FAIA, of Esherick Homsey Dodge & Davis; and E. Fay Jones, FAIA, of Fay Jones & Associates.

1. Mary Lyon Hall, Wheaton College, Norton, Massachusetts; CRB/Childs Bertman Tseckares & Casendino, Architects. A wood-frame and heavy timber academic building, erected in 1949, was restored for classroom and administrative use. Work included the replication of missing wood ornament and an interior redesign that returned the main entrance to its original central location. The jury praised the architects for "showing great respect for the qualities of the building:"

2. Cakebread Cellars, Rutherford, California; William Turnbull & Associates, Architects. Unfinished Douglas fir, new redwood siding, and a wood-shingle roof help a 10,500-square-foot remodeling and expansion of a Napa Valley winery blend in gracefully with its agricultural setting. The jury called the project "a very simple, straightforward, and elegant building. [It is] the image of how an American winery should look."

3. Architects' Offices, Palo Alto, California; Carter/Cody & Associates, Architects. In order to adapt an unsound warehouse erected in 1905 into their own offices, the architects conceived a freestanding braced frame of bolted 6 x 6s thatrelieves wall loads and becomes the central design element. All surfaces were painted white to unify the various species of wood. "From a minimal shell, a pleasant, fresh interior has been created," observed the jury.

4. Architects' Offices, Coral Gables, Florida; PCB&A, Architects. In converting a former warehouse for its own offices, the architects wrapped the interior on three sides with a loft and designed a series of modular workstations that serve both as drafting tables and as second-story railings. Singing out the workstations, the jury called the design "an inventive use of plywood that . . . is visually strong and functionally quite clever."

5. Renovation of City Hall and the Davis Building, St. Mary's, Georgia; The Spriggs Group, Architects. The architects unified and enhanced a row of undistinguished 1960s commercial buildings by resheathing them in white clapboards and adding a columned arcade, latticed wood gables, balustrades, double-hung windows, and uniform signage—details that harmonize with elements found in an adjacent historic district of 19th-century wooden architecture. The jurors praised the architects for taking the existing buildings, which they characterized as "two mundane shells," and making them compatible with their neighbors.

6. William Temple House Addition, Portland, Oregon; Fletcher Finch Farr Ayotte, Architects. A two-story, frame addition to an Episcopal mission reflects the form and details of an adjoining Romanesque Revival house. Cedar shingles on the new building are stained to match the color of slate shingles on the original structure. Although one building is masonry and the other wood, "the over-all form, breakdown of elements, and subtlety of design has resulted in a compatible set of images," said the jury.

7. RPI Playhouse, Rensselaer Polytechnic Institute, Troy, New York; Bohlin Powell Larkin Cywinski, Architects (RECORD, November 1984, pages 110-113). Built during World War II as a USO hall, a modest wood-frame structure was remodeled in the style of a
summer stock theater, complete with painted clapboard siding, 
contrasting wood trim, and a gabled false-front facade. "With an 
economy of means, the architect has created a building with a certain 
piazzazz . . . well-suited to its function as a playhouse," observed the 
jury. 
8. 402 North Main, Randolph, 
Massachusetts; Charles T. Stifter 
Architects. An 8,000-square-foot 
ofice project on a residential 
suburban street incorporates a new 
two-story building and a late-19th-
century farmhouse. Painted 
clapboard siding, contrasting trim, 
and attention to the sizes of 
openings and volumes unify the 
design. The jury praised the 
architects’ "deft handling of 
materials, color, proportion and 
general form"—elements that allow 
"two totally different expressions 
play against one another with a 
pleasing contrapuntal effect."

9. The Athenaeum Hotel, 
Chautauqua Institution, 
Chautauqua, New York; Robert C. 
Gaeke Architects. Located on 
the grounds of a renowned cultural arts 
institution, an imposing 100-year-old 
hotel required extensive structural 
repairs and code upgrading. Care 
was taken to preserve existing 
wood siding and details, and new 
millwork, where needed, exactly 
replicates the old. The most striking 
additions to the structure are a new 
octagonal porch and grand double 
stairway leading to the lake. 
10. Fort Humboldt Restoration, 
Eureka, California; Office of the 
California State Architect. 
Nineteenth-century U. S. Army 
records and findings from an 
archeological dig provided 
architects with source material for 
the rehabilitation of a dilapidated 
military hospital and surgeon's 
house on the California coast. New 
cedar shingles and redwood 
columns, clapboards, and timbers 
were utilized in the rebuilding. 
11. Simpson Hall Renovation, 
Nyack College, Nyack, New York; 
Schofield Colgan Architects. A 
former bible college built in 1897 
was gutted, stripped to its original 
ballon frame, and reconstructed 
with new cedar bevel siding and 
shtingles stained to match the 
original colors. The jury called the 
project "an impressive exterior 
restoration and mechanical 
upgrading [that is] consistently 
good all the way through."

12. Hidden Harbor Restaurant, 
Pompano Beach, Florida; The 
Architects, Inc. Laminated wood 
arches, a gently curved ceiling 
dek lit by clerestory windows, and cedar 
shake wall cladding characterize the 
interior and exterior reconstruction of 
a one-story harborside 
restaurant. The jury singled out the 
"excellent use of glu-iams as a 
structural and decorative element. 
The design picks up the geometry 
of the waterfront and builds on 
these motifs."

13. National Country Garden, 
Washington, D. C.; Guy L. Rando 
& Associates, Architects (Special 
Citation). A demonstration project 
at the U. S. National Arboretum 
features the innovative application 
of reusable lumber in garden 
structures. Trellises, decks, fences, 
benches, and planters were 
fashioned by volunteer laborers 
from recycled doors, wood concrete 
forms, crates, and pallets. The 
jurors lauded the resulting 13 
outdoor rooms for their "rhythm, 
pattern, and visual appeal," and 
they cited the over-all project as "an 
inventive reuse of materials and a 
creative community program."
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Reviewed by Barry Bergdoll

Although Gottfried Semper (1803-1879) built some of the most prominent public buildings in Vienna and Zurich, he owes his place in architectural history primarily to his writings. His great treatise Der Stil (1860-63) was as influential in succeeding generations of architects as the writings of Viollet-le-Duc or Ruskin. Semper's influence was never confined to his native Germany, from which he was exiled for his involvement in the revolution of 1848-49. He was, by force of circumstance as well as point of view, a cosmopolitan who made his mark directly in Paris, London, Zurich, and Vienna. He died in Rome in 1879. His writings were taken up—and often misunderstood—by such father figures of modern architecture as H. F. Berlage, Otto Wagner and even, it seems, John Root and Louis Sullivan, as well as other Chicagoans who read Root's excerpts of Der Stil in the Inland Architect in 1889-90. These were the only parts of Semper's voluminous writings ever to be translated into English, and historians have acknowledged their influence on Chicago architects, all of whom seemed taken by Semper's views on social needs as the determinants of architectural form. He posited a series of archetypes that were initially expressed in craft; subsequently, these types underwent extensive evolution and were incorporated into advanced architectural forms. The type, for Semper, retained a kernel of immutable meaning almost the way a word retains an essential relation to its etymological origin. But few of his contemporaries were sensitive to the linguistic metaphors in Semper's work, and the question of his influence has always been complicated by misrepresentations that have risen around his theory of architectural origins and changes.

Architectural historians have long hoped that someone would undertake the invaluable, though thankless, task of fully translating Der Stil. But Semper's text is long, repetitive, and written in German that is abstruse even by 19th-century standards. He was given to inventing terms for his more complex ideas, so that the very essence of his theory lies often in the most difficult aspects of his language. Even more frustrating for architectural historians, Semper's elaborate theory of the origins of archetypes in the industrial arts of ceramics and textiles, which occupies the two volumes of Der Stil, was intended only as a prelude to a third volume in which Semper would have extended his ideas to architecture. Because that work was never written, scholars have depended upon Semper's earlier writings to assess his views on architecture.

Wolfgang Hermann has filled some of the gaps for English-speaking scholars by translating and assembling for the first time five of Semper's most suggestive early essays, Gottfried Semper: In Search of Architecture is a major event for anyone interested in modern architectural theory. Most of the essential themes of Semper's work are exposed here in brief essays both more accessible and more vibrant than the elusive Der Stil. These essays, moreover, contain the frank assessment of Semper's contemporaries and his pessimistic view of the state of architecture that Hermann speculates was one obstacle to completing the final volume. For example, Semper bemoans the "domineering influence of a late master"—clearly Schinkel—in Germany. Turning to France, he disdains the reductivism of Durand, whom he labels a schematizer, and he dismisses Viollet-le-Duc's rationalist interpretation of Gothic.

Semper was seeking no easy solution or formula, and his text is never prescriptive. A new architecture would only emerge slowly through the cooperation of all the arts and crafts, guided by a general theory of art. Semper devoted his entire life to articulating such a theory based on idealist notions.

Hermann introduces his selection of Semper's writings with his own chapters on the architect's life and intellectual development, placing Semper's theoretic speculations in the context of a tumultuous career pursued across Europe. Although these chapters form neither a biography nor a monograph, they shed considerable light on issues in Semper's own text. Hermann, who himself left Germany for political reasons in 1933, is keenly sensitive to the decisive impact of a prolonged exile on Semper's intellectual development and the prime role given to political and social factors in his philosophy. (The author, in fact, devotes his longest chapter to Semper's six years of exile in France and England.)

Another full chapter is given over to a discussion of the 1851 Great Exhibition in London and its catalytic influence on Semper's concept of architectural origins. All the main themes of Der Stil—the primacy of social needs and functions over materials as formal determinants, the role of fundamental primordial ideas (Urfommen) in the evolution of architecture, and his famous theory of cladding (which some have seen as influential on the Chicago curtain wall)—were clarified by Semper's confrontation with actual primitive architecture displayed at the Crystal Palace.

Other chapters disentangle the complex publication history of Der Stil and recount Semper's early career as an architect in Dresden. Perhaps the most valuable part for the general reader, however, is the collection of six new essays on major themes of Semper's theory, which set out not only to clarify the issues raised in Semper's short texts but also to place those themes in the context of contemporary debates. Hermann contrasts Semper with Viollet-le-Duc, and Durand, the father of the Tectonic approach, the archaeologist Karl Böttcher. Most importantly, he debunks systematically many of the common misconceptions of Semper's views. Indeed, Hermann's book makes Semper an accessible theorist and opens the way to re-establishing his major role in the development of modern architectural thought and practice.

"They did it in L.A. They did it in L.A. Is that all you people can say?"

Barry Bergdoll teaches art history at Columbia University.
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Reviewed by Thomas Matthew

History in architecture goes deeper than style. Complex social forces—some understood, others obscure—inform what cultural historian Helen Horowitz calls "the relations between material objects and their contexts." Her book Alma Mater examines the actual interplay between structure and society in the development of women's colleges in America. By analyzing campus planning, building styles, and patterns of use, she reveals the educational philosophies that underlay social, curricular, and physical change.

Horowitz's study concentrates on the established and some known as the Seven Sisters and, to a lesser extent, three younger progressive cousins. These colleges were pioneers in claiming and developing an educational identity. At Bryn Mawr, which Horowitz tracks changing attitudes as the schools grew in size and stature. She also shows how a movement away from their professional curricula led almost inadvertently to the social freedoms championed at Sarah Lawrence and Bennington.

Initial decisions not to prepare students for careers allowed a less formal approach to instruction and governance. Reflected in small-scale campuses whose buildings integrate social and educational activities, these "progressive" views led ultimately to an emphasis on free self-development that would have shocked the founders'

Horowitz's analysis of the strategies involved in this century-long evolution as recorded in building types is convincing, especially when her examples are specific—a library at Bryn Mawr, a chapel at Wellesley. In these, she becomes clear that issues in design go beyond some internalesthetic development to include in-house power battles, donors' whims, fiscal constraints, and prevailing social climate. But when Horowitz ignores these factors to insist on the power of design, she loses plausibility. She describes Wellesley in 1931 as "the heights of the college... [in] its most complete expression." However, an aerial photograph shows an amalgam of the garden college of Frederick Law Olmsted and the monastic quadrangle of Ralph Adams Cram. As Paul Turner shows in his fine study Campus: An American Planning Tradition, these influences had earlier and broader concerns than sex.

Although Horowitz's building descriptions are clear and evocative, there is a disappointing absence of maps, plans, and elevations, and the photographs, while engaging, are inadequate, snapshots from an album found in some dusty attic. In this respect, the book suffers from a lack of precedence over architecture, social and philosophical issues over questions of style. But architects may benefit from this lesson in the limits of design. Planners must strive less for visual effect, more for responsiveness to human needs. As Alma Mater makes plain, these will always prevail in the end.


Reviewed by Roger Kimball

In this engaging and well-illustrated study, Paul Venable Turner chronicles the evolution of campus planning in America from its European prototype through the colonial times to the present. His brief introduction distinguishes the tradition of campus planning in America from its European prototype to show that "the meaning of campus planning is that it is the product of a specific-a region's geography, the climate, the climate of the society, its history, traditions, values, and goals." However, Turner notes, that "most of us will remember that 'campus' comes from the orthographically identical Latin word meaning 'field'—a field for military exercises, for example, or for games or public meetings. It is perhaps less well-known that the use of the term to designate the grounds of a school or college is of more recent, American provenance. In the common contemporary sense, 'campus' had its origin in the 1870s, apparently at Pitzeron. At this stage, it still referred primarily to the expansive fields on which most American colleges or universities were then situated. But the word gradually came to mean the entire school property including the buildings, until now we can speak without contradiction of an "urban campus," where the closest thing to a campus in the old sense is a parking lot.

But even in its broader, less rustic application, "campus" remains particularly evocative of American college life. It has, writes Turner, "tal and other connotations, suggesting the pervasive spirit of a school, or its genus loci, as embodied in its architecture and grounds. [The word] campus sums up the distinctive physical qualities of the American college, but also its integrity as a self-contained community and its architectural expression of educational and social ideals."

Unlike universities on the continent, where students were left to make living arrangements on their own, American colleges have from the beginning aspired to provide a total living environment for students and faculty. The American college was not merely an aggregate of classroom and lecture halls but—as Jefferson put it in describing his goal for the University of Virginia—it aimed at being an "academical village." In this sense, the American college has tended to emulate the English collegiate system, creating "an institution for undergraduate students and scholars, with shared intellectual and social values, and emphasizing the development of character or culture rather than the learning of a trade." But while English schools were essentially urban, their early American counterparts—Turner singles out William and Mary and Dartmouth, the first examples of the truly rural college.

Beginning with an overview of the nine colonial colleges, Turner proceeds to the evolution of campuses in the early republic, when plans for a national university were much discussed. College planning became increasingly grand and ambitious from the 1820s through the 1850s—a period epitomized by the classicizing work of Alexander Jackson Davis—but they underwent something of a revolution after the Civil War with the Land Grant College Act of 1862. The impulse for democratic educational reform—for a "people's college," in Horace Greeley's phrase—sought to replace the traditional emphasis on recitation and a prescribed, classically rooted course of study with a "practical" curriculum relevant to the common man's everyday work requirements. Modern, experimentally oriented science began to be championed—Harvard and Yale led the way. By the 1890s, landscape architect Frederick Law Olmsted, whom Turner singles out as the person most responsible for creating "a type of campus that reflected the particular needs of theImplications of the arts, sciences, and economy and its impulses in education." Involved in the design of at least 20 schools from the 1860s to the 1890s, Olmsted proposed parklike settings and informal groupings of buildings that aimed at integrating democratic life with the "civilizing" influence of nature.

Perhaps inevitably, there was a reaction against this formality from the 1890s through the 1920s with the birth of the City Beautiful movement. The Beaux Arts system of architectural planning, with its insistence on hierarchy, unity, and central planning, seemed the perfect answer to the new building requirements. At the same time,
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however, there was a reaction against the size and impersonality of the university and a renaissance of the collegiate ideal. This was evidenced especially in the resurrection of collegiate Gothic architecture, most notably in Ralph Adams Cram's work at Princeton, and in the institution of the House system at Harvard and the College system at Yale in the late 1920s and early 1930s.

Contemporary developments—which Turner reviews in a chapter optimistically called "Innovation, Change, and Renewal"—reflect the new pressures of rapid increases in enrollment following the GI Bill and "baby boom" of the 1950s. With universities comprising tens of thousands of students, Gifferson's "academic village" was transformed into an academic city, and the architect now faced all the problems of urbanization, traffic and crowding endemic to modern urban environments. Not surprisingly, there once again have been numerous attempts to return to the traditional collegiate ideal—Turner himself published an essay on Kresge College at the University of California at Santa Cruz—that can still offer the diversity and wide competence of the university. But Turner does not confuse his attention to purely architectural matters. His chief interest, in fact, is in "the relationship between ideas and physical environment"—in the way architecture can be used to articulate a particular social or spiritual vision. This makes Campus: An American Planning Tradition as much a history of American educational trends as of the buildings fabricated to accommodate them. The repeated flowering of the collegiate ideal—which Turner characterizes as "inward-turning" and "elitist"—may lead us to question his description of the American campus as essentially "open and extraverted," based on the evidence presented in this book, it would seem to defy any easy characterization. Yet Turner has succeeded admirably in showing not only how the American campus has been "the laboratory for perhaps the most distinctively American experiments in architectural planning," but also how campus planning can in turn shape the campus in "shaped by the desire to create an ideal community," a "uniquely American place." He has judiciously sifted through a great deal of material—literature from literature, educational manifestos to contemporary architectural renderings, and his careful scholarship alone would guarantee the book a respected place in the annals of this relatively neglected area of architectural history.


A venerable part of the repertoire of stand-up raconteurs is the Talking Dog. You know the stories. Talk to me, I knead, you, it's my world. And, one of two situations unfolds: gullible character imputes non-existent meaning to the sounds and is led to come out, or skeptical character misinterprets honest meaning and is led to similar straits. The comedy works in us because we have all confronted the unfamiliar and wondered: "Is this important? Does this mean something?" The exotic presents us with this dilemma.

Looking at the projects in these two compendiums of Islamic architecture, I kept out soft barking noises. When moved by a project, I asked: "Am I imputing profundity where none exists?" When unmoved, the question was: "Am I missing something?" Admittedly, the Dog barked only infrequently during my reading of Architecture and Community: Building in the Islamic World Today. This book is a presentation of the first cycle of Aga Khan Awards for Architecture, a group of projects chosen from the production of the world's Islamic countries from 1939 to 1977. A wide- cast of the net has brought forth works that in nearly all cases persuade by their exquisite quality or sheer architectural power—a persuasion aided by the sumptuous presentation accorded the works.

But the Talking Dog was at my side throughout Modern Turkish Architecture, where the task of showing the general run of Turkish building since the break-up of the Ottoman Empire, the architects have had to include works that elicit all those doubts about unseen significance (a situation not helped by the many snapshot-quality, black-and-white photographs).

Fortunately, though, neither book relies solely on images, and both contain essays that offer ways of looking at the pictures and of understanding the architecture they depict. The Aga Khan book offers a cultural context for its buildings in essays on conservation, urbanism in the Islamic world, the twin problems of poverty and aspiration, the roles of design and craft, and the meanings of Islamic symbols and decoration. The cultural background is then given concrete instance by more pointed essays and more types—housing, schools, facilities for recreation and tourism, and mosques.

The most provocative of these essays for me was Muhsin S. Mahdi's "Islamic Philosophy and The Fine Arts." Mahdi tells us that the Koran and collateral writings impel the Muslim artist to seek perfection, seen as alignment with the Koran and with the Koran's philosophy, however, there is no agreement as to the proper path to that perfection. Does one try to perfect one's own intellect and by that means its pure intellectual life, whereas the second would suggest a more contemplative approach.

The authors of Modern Turkish Architecture focus on Islamic issues and trace on the particular conditions and recent history. An introductory essay by Ilhan Tekeli serves as an abstract of the basic themes of the book, which are developed in individual buildings. Tekeli's essay, however, propounds the two most forceful basic ideas—peripherality and periodicity.

Tekeli's conception of peripherality is that in the modern world, the very ground rules for creative endeavor have been set by the West; the West has insinuated itself into the minds of architects. In the 1920s Turkish nationalism was to be expressed by invoking the pan-Islamic cosmopolitanism of the Ottoman past; in the 1930s, by embracing the revolutionary spirit of modernism, and in the 1940s, by looking to the native architecture that existed beneath Ottoman cosmopolitanism; in the 1950s, by a renewed fascination with modernism, by then defined by the tenets of CIAM; and after 1960, with a generalized concern with architecture as an instrument of social justice. Through this schema of periodicity, Tekeli offers us a way of looking at Turkish architecture: we should look for the manner in which it embodies the definition of Turkish nationalism prevalent at the time of its creation.

It is interesting to note that these two ways of seeing architecture imply a similar approach to creating architecture. Under both, an architect would, in effect, cup a hand over a set of revered practices or ideas in order to maintain them firm, with the other hand, pushing out to the new. In Turkey the protected core is the then-prevalent conception of nationalization; in Islamic philosophy, the conception of God's will. Both methods stand in contrast to the modernist method of creating, which is not to cup a hand over a revered core but to push the revolutionaryward with both— with the threatening result that a void will be left in the middle. Seen in this way, the two approaches described in these books differ only in the direction of their push. In Islamic philosophy, the hand cupped over the desires of God is never to be moved, while under the Turkish approach one should from time to time fill up the cupped hand, if the core still felt worth protecting.

But this "cupped hand" approach suggests itself as more simply than a way of seeing Islamic architecture. The question of how to see any architecture given is seen as containing the forces of modernity—of seeing even our own "peripheral" architecture produced by local designers and craftsmen. To cite just one example, might we not say that O'Neill Ford cupped his hand over the "other" by saying that a house should look while exploring, with the other hand, issues of new living patterns, increased density, and energy consumption?

This way of thinking about architecture has been echoed by several critics in recent years seeking a consensus about a way around the modern-postmodern dilemma. But if this is indeed a consensus about how to think about architecture, the question remains: Are we ready to create architecture in this way? Having felt for so long as architects were the only people capable of making modernism and then the heady release of postmodernism, we find ourselves at ease with the cupping of a protective hand over revered local architecture. But we must find that (unlike modernism) we limit our field of maneuver. Are we ready, for the sake of preserving regionalism, to give that up? This question and all of the preceding questions is a reflection of how much these two books make us want to understand these architectures—to know when they speak and what they say and—ultimately, to quiet the tragi-comic barking of that talking Dog. William Hubbard, a frequent contributor to RECORD, teaches at the UCLA School of Architecture and Urban Planning.
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Jurists' Decision Shall Be Final — Upon entering the CRSI Design Awards Program, entrants waive their right to make a claim against the panel of jurists (or any member thereof), or to make a claim against Concrete Reinforcing Steel Institute (or any member thereof).

How To Enter

The following requirements correspond to those of the AIA Honor Awards Program. Entries prepared for the AIA Program may be submitted in duplicate to the CRSI Design Awards Program. However, please also include the descriptive data sheet specified in item 4. All other entries should be prepared as specified in items 1 through 5. No entry forms are required.

1. Binder

   All material must be contained in an 8¾" x 11" binder.

2. Photographs and slides

   For every project, submit sufficient photographs (either black and white or color), and slides to properly illustrate the design solution. All architect and project identification must be removed from all such submitted materials. Minimum requirements are forth below:

   Exterior Photos
   - One 8" x 10" print showing each outside exposed side of the building.
   - One additional 8" x 10" print showing the immediate environs of the building as these are the actual side being shown (may be omitted if environs are included in above.)

   Interior Photos
   - One 8" x 10" print.

   Slides
   - A minimum of five 2" x 2" 35mm color slides must be submitted for each entry — three exterior views and two interior views. They are to be of completed buildings and emphasis should be on adequate effective slides which show the merit of the project and each facade of the building.

3. Plans

   Site plan — at small scale, showing the project and its immediate environs. Floor plan or plans and one or more sections — sufficient to explain the solution. Plans must be at scale, but may be shown in any medium. Scale at discretion of entrant, as large as practicable. Scale must be shown graphically. Plans must be on eight ½" x 11" sheets placed in transparent window sleeves.

4. Descriptive data

   To preserve anonymity during judging, submit the following data typewritten on plain white 8½" x 11" paper.

   a. Description of type of structure
   b. Size of structure in total square footage.
   c. Date structure was completed or scheduled for completion.

   Important

   Please provide complete information on the following:

   a. Structural framing system: Indicate which portions of the system are conventionally reinforced, prestressed, or precast concrete. (Remember, structure must be predominantly site-cast and conventionally reinforced.)

   b. Unique structural and/or architectural design features: Describe any that deserve special consideration by the jurists.

   c. Reasons for choosing reinforced concrete: Please be specific and include comparisons with other structural systems when applicable.

5. Concealed Identification

   All information requested here must be included on a separate typed sheet. Please be certain that all spelling and all punctuation are absolutely accurate.

   a. Proper name of structure
   b. Name, address, and phone numbers of:
      - Architect
      - Engineer
      - Contractor
      - Owner
   c. All titles or other designations such as consultant, associate, architect, project architect, architect in charge, associate architect, etc.
   d. All city and state locations.

   Deadline

   All entries must be received no later than November 1, 1985 at CRSI headquarters. For additional information, call 312/490-1700.

Circle 75 on inquiry card.
"Show me another firm that has produced a portfolio of townhouses this interesting," challenges Bernardo Fort-Brescia, co-principal of Arquitectonica, the firm responsible for the portfolio of townhouses Fort-Brescia holds in such high esteem. And though we may wonder at the 33-year-old architect's not-uncharacteristic immodesty, after scrutinizing the eight residential enclaves in this portfolio, we must confess alternative firm names do not leap instantly to mind. Like it or not, Fort-Brescia has a point: these townhouses are, at the very least, "interesting." For whether you count yourself friend or foe of the particular brand of ecstatic Modernism that Fort-Brescia and partner Laurinda Spear have devoted their first seven professional years to blitzing home-base Miami with, it does possess a seductive visual allure that is hard to resist. True, this current chapter in Arquitectonica's scrapbook registers a reduction in scale from those first stop-your-heart condominium towers along Brickell Avenue, but they deliver no less emphatic an aesthetic punch.

There's appreciably more to this particular Arquitectonica story than eight new colorful facades making merry—this time in Texas—on once-quiet streets in Houston, Austin, and Dallas. As a collection, these townhouses acknowledge a growing trend toward the densification (and frequently gentrification) of modest single-family-house neighborhoods that 20 years ago were considered suburban, but, after decades of urban growth, awoke in the '80s to find themselves enviably close to downtown. And since no one's idea of a good time is a 90-minute commute in rush-hour traffic, these neighborhoods are now coveted by ever-acquisitive yuppies who want to be near the commercial and cultural action, and, consequently, by the quick-witted developers who prefer to keep the lag between demand and supply as short as possible. The bottom line is that the old neighborhood is changing: The Smiths' three-bedroom Colonial is gone, replaced by five $250,000 townhouses—and 10 cars.

But if change is a demographic fact of life, the method by which to effect change is surely subjective. For instance, Fort-Brescia believes that Arquitectonica's townhouses have had an extremely positive effect—"they've generated a whole new generation of developments that are much better than they used to be"—whereas there's at least one skeptical Texan (see veteran Houston observer Douglas Milburn's critique, page 133) who seems to eye these latest Florida exports as more Miami vice.

Charles K. Gandee
Although the realtor charged with handling two of Arquitectonica's eight Texas townhouse projects characterizes the buildings' style as "contemporary," most of us would choose "Modern" as the more appropriate stylistic umbrella under which to place the sprightly medley (previous page and below). For though architect Bernardo Fort-Brescia not incorrectly boasts of the portfolio's "variety," in terms of design, there is a consistent reliance on abstraction. In scrutinizing these 17 units of pricey housing stock, however, we see that Arquitectonica has loosened its "Modernist" collar over the last three years. Moving, in chronological order of design, from Taggart (3) to Haddon (2, overleaf) to Milford (4) to Mandell (5) to Exposition (8) to Nantucket (6) to Newton (7) to Rodrigo (1, overleaf), we can't help but note a gradual rounding of the hard edges; an early tendency to line up tightly composed facades like so many cubist soldiers at attention versus a later tendency to let more loosely composed facades stand at ease. Reflecting on the almost-arbitrary appearance of the later work, partner Laurinda Spear reflects: "We would never get good grades in school now, because everybody asks 'why did you do this?' and 'why did you do that?' And to say 'we did it for composition's sake' is not a good enough answer. The premise we go under at this point is that of course we can make it work functionally—so we just gloss over all the basic stuff. That means the only interest left is composition and design. We try to keep the architecture as pure art without so much burdening it down... We might as well be painters or sculptors."
Bernardo Fort-Brescia is shameless. Or so many will regard him, owing to the heresy of his confession—nay, boast—that Arquitectonica’s work is not contextually sensitive. For to be an architect in good standing in this decade it seems one must sing alleluias of contextualism—which both dyed-in-the-wool Modernists and born-again post-Modernists are doing in numbers and at a volume that can be conservatively, and respectively, termed overwhelming and thunderous. To do otherwise, i.e., not to raise at least your voice to honor-thy-neighbor contextualism, is to run the risk of incurring the wrath of your colleagues. But Fort-Brescia and partner Laurinda Spear are accustomed to running that risk. Since founding Arquitectonica in 1977 they have done nothing so much as thumb their noses at their profession’s conventions—preferring to ignore the prevailing currents and chart their own, brazenly independent course.

Unlike many of their peers in the under-35 set, who frequently report enormous difficulty in making the transition from classroom to drafting room, Fort-Brescia and Spear have shown a remarkable talent for maneuvering not simply in the “real” world of clients, budgets, and deadlines, but in the super-real world of cutthroat speculative commercial real estate. Using the Arquitectonica motto of “No job too large or small” as his guide, Fort-Brescia pursues small-, medium-, large-, and mega-scale development work with a hunger that approaches the insatiable. And while Spear has shown a more prolific talent for producing her signature colored axonometrics of those developments than Arquitectonica’s clients have shown for constructing them, she and Fort-Brescia can nonetheless boast a portfolio of built work guaranteed to intimidate a more-than-modestly-successful colleague in their parents’ generation. Not incidentally, the various pages in that enviably-thick portfolio reflect another, no less idiosyncratic predilection of the husband-and-wife team: at a time when pre-20th-century historicism is sweeping drawing boards from Tokyo to London, Fort-Brescia and Spear are near-rabid advocates of Modernism. Though even the most relentless attempt to extort an acknowledgement of specific architectural influences, or even sympathies, elicits only a coy “I’m not going to deny or accept” from partner Spear, she and Fort-Brescia nonetheless appear especially well acquainted with certain chapters in the history book of the Modern movement. Their work suggests that their study began, as all good Modernists’ study must, with the Bauhaus and Le Corbusier chapters, but then diligently continued on to the Russian Constructivism section (particularly the part on color and fantasy by Nikolai Ladovsky), on through the Art Deco pages, through Morris Lapidus’s baroque aside, and on through the contemporary Dutch architect Rem Koolhaas’s late entry, until finally Arquitectonica decided simply to throw away the book and write its own reinterpretation. Partner Spear, however, cautions would-be readers of Modern Architecture According to Arquitectonica not to take it all too academically: “It’s not something that you have to refer back to some historical architect to understand—forget about all that. It has more to do with lifestyle and visual impact… it’s just a visual event. What you respond to is color, form, and composition… we start from the premise that you should have a certain emotion when you see it.” And you do.

Just ask any visitor to any one of the Houston or Austin or Dallas neighborhoods which has been (or will be soon) the beneficiary of one of Spear’s aforementioned “visual events.” The firm that stopped the professional and popular presses (and cornered the market) with a series of surreal condominium towers in Miami now aspires to similar goals in the low-rise townhouse category in Texas. And though they hit their target city of Houston at an especially troubled moment (there are at present 36 million square feet of vacant office space in the city, according to one developer), Fort-Brescia’s barracuda business instincts and Spear’s architecture-as-incitement conspire to give Arquitectonica powerful ammunition with which to wage its assault on the complacent world of butterscotch brick townhouses.

“Arquitectonica is the best bargain in town—there’s no doubt about it; they do good work and they charge a very nominal fee.” Mike Wilson is a small-scale developer/contractor (at least by Texas standards) whose first three projects have all been designed (as you might have guessed) by Arquitectonica. His development/construction company, Principium Inc., recently completed the Milford Townhouses (figure 4 and pages 128-132) and will soon begin the Nantucket Townhouses (figure 6). The 38-year-old Wilson’s admiration of—and loyalty to—the Miami architects is based on his interest in pursuing a market segment he refers to as “innovators, typical yuppies.” He sees the jazzy Arquitectonica esthetic as helpful in that pursuit because “it is of singular quality,” because “it defines the target market so distinctly,” because “we felt that it was going to be our competitive edge in the [soft] market,” and because “we like to get a little attention.” But the critical factor, according to Wilson, was Bernardo Fort-Brescia’s flexibility during contract negotiations. The first Arquitectonica-Principium project was a simple bottom-line consequence of Fort-Brescia offering a per-square-foot design fee that was nothing short of irresistible.

Jerry Maba is another loyal consumer of Arquitectonica’s talents. The small-scale developer of residential properties initiated his now-long-standing relationship with Fort-Brescia and Spear after glimpsing their first project in a Japanese magazine (the “pink” house, as it has come to be known in Miami). Although the single-family house Maba commissioned Fort-Brescia and Spear to design for his own use remains unbuilt, he registered his satisfaction with their efforts by following the house project with three townhouse developments—Taggart (figure 3 and pages 120-125), Exposition (figure 8), and Rodrigo (figure 1). Though one might initially be skeptical about Maba’s unabashed enthusiasm for the first-to-be-completed Taggart project—“It’s not just four townhouses… I consider this a work of art”—after meeting Maba, one realizes it’s not hype, it’s heartfelt. Lest anyone think Maba a contemporary Medici, however, know that he, too, keeps at least one eye riveted to the bottom line: i.e., when the Taggart bids came in too high, he “took a samurai sword to the draw-ings.”

The image of a razor-sharp shaft of steel slashing through an Arquitectonica townhouse drawing may delight some observers, who would argue that while Fort-Brescia and Spear are merely responding to the exigencies of contemporary real estate in their flashy projects, they are responding with perhaps too much esthetic exuberance. For though Arquitectonica did not make the initial rent in the once-smooth single-family-fabric neighborhoods in which they are inserting their projects, eye-catching colors and alien forms cast the awkward rite-of-passage from single- to multi-family into painfully high relief. While there is no way for any architect to mask the fact of replacing a homey 1,200-square-foot house with 12,000 square feet of “luxury” townhouses intended to appeal to the fast-lane tastes of fast-track young urban professionals, some might suggest that a little esthetic compassion is rarely unwelcome. It comes down to a choice: Arquitectonica could have designed these Texas townhouses in such a deferential way that, figuratively speaking, they would have spoken in hushed tones—“Hello. We’re your new neighbors. We may be cumbrous, but we’ll try to be as unobtrusive as possible.” Instead, Arquitectonica designed these townhouses in such an unapologetic way that, figuratively speaking, they shout: “Wake Up! Wake Up! We’re here.” But then Laurinda Spear and Bernardo Fort-Brescia would argue that hushed architectural tones are for the timid, the meek, the insecure. Which, as we know, isn’t Arquitectonica’s style. C. K. G.
Certainly the most reserved of Arquitectonica's Texas townhouses is the Taggart complex, a four-unit residential enclave on a corner lot in Houston's formerly modest, but now trading-up, Memorial Park neighborhood. The mannerly "townhomes" owe their good neighborliness to a shifting pastel (not primary) palette, to a push-pull (in-out) site and massing plan, to a layered and variegated facade for both Taggart Avenue and Coppage Street (photo right)... in other words, to the fact that Arquitectonica resisted the expedient temptation to simply line up four identical units (as other architects are doing in the immediate neighborhood).

Consequently, purchasers of the $298,000 units are offered that elusive commodity in townhouse ownership, unit identity—"it's the pink house on the corner." The snappy (but not too snappy) cadence of the plans, colors, and elevations, also helps reduce the apparent scale of the new neighbor, which is always appreciated in single-family-house areas in the grip of "densification." For those concerned that the purchaser of the pink unit may decide to hate pink but love brown, developer Jerry Maba reassures us that the townhouses come with deed restrictions—any esthetic modifications must be approved by Arquitectonica. A non-esthetic footnote: According to realtor Judith Briggs, who is handling not only the Taggart townhouses but the Milford townhouses, Arquitectonica's projects get an extraordinary number of "lookers," but "in a softer market people feel more comfortable in terms of resale with more "traditional" design." (The impressive resale record of Arquitectonica's Miami condominiums has not caught up with them yet in Houston.)
"They grab you with color outside, but you have to live inside... the feeling of the spaces is what's important," says developer Jerry Maba. And though Arquitectonica's three floor plans for Taggart's four units can stand up against the best of what the competition can offer, they in no way convey the character of interiors that rely on vertical space as much as horizontal for their quality (right). Assisting in that qualititative cause is the more-than-generous glazing, which obviously floods the double-height living and dining rooms with sunlight, but also affords expansive aerial vistas from the second-floor public zone (the bedrooms share the ground floor with the garages) to the verdant lawn of Taggart Park, across the street.

Taggart Park Townhomes
Houston, Texas
Owner: Jerry Maba, Developer
Architect: Arquitectonica International Corporation—Bernardo Fort-Brescia, Laurinda Spear, principals and project designers; Robert Tolmach, project coordinator; Mark Volpendesta, project manager; Jennifer Briston, assistant
Engineer: Cunningham Associates (structural)
General contractor: Neartown Builders, Inc.
One suspects that architect Bernardo Fort-Brescia is indulging in a bit of public relations when he claims that his client's mandate for brick for the four Mandell Residences posed "a good opportunity for Arquitectonica." Why the suspicion? Because if you ask a brick what it wants to be, it most likely won't say the Mandell Residences. The lighthearted insouciance that characterizes the design of Mandell doesn't quite get off the ground, i.e., a cockeyed gable is something less than cocky when weighed down in reddish-brown brick. But the gable is Arquitectonica's way of providing individual identity for unit B; just as the grid, the triangular window, and the white glazed surround are Arquitectonica's way of providing identity for A, C, and D. Explains partner Spear: "We didn't want it to look too repetitious...we wanted everybody to feel like their own little house had something special." Once past the turquoise front doors recessed into black alcoves, however, it's back to Arquitectonica business at its best: the interiors at Mandell, as in the firm's other Texas townhouses, offer commodious volumes flooded with light, and as much vertical interest as horizontal. Though the east elevation (axonometric, page 118) is not as variegated as the west (below), the quadifold panels of the private facade subtly reflect the two pairs of twin plans contained within (right).

Mandell Residences
Houston, Texas
Owner: The Milford Partnership
Architect: Arquitectonica International Corporation—Bernardo Fort-Brescia, Laurinda Spear, principals and project designers; Jennifer Briley, project manager; Robert Tolmach, project coordinator
Engineer: Cunningham Associates (structural)
General contractor: Neartown Builders, Inc.
Shoehorning 11,600 square feet of housing onto a 52'-by-125'-foot site is a bit like trying to fit the unrealistic customer who insists she’s a delicate 5, when you know she’s a perfect 9. The shoe will go on, but not without considerable effort and discomfort. In simple fact, the program for the Milford Townhouses was something less than ideal—especially considering that the neighborhood is primarily comprised of modest single-family houses. But real estate is real estate, and the 6,500-square-foot corner lot is situated in a coveted transitional zone between a venerable boulevard of million-dollar houses and a trendy commercial strip leading into Houston’s museum district.

Arquitectonica’s answer to the problematic program and site neatly flanks four 1,700-square-foot townhouses with two 2,400-square-foot townhouses. A mandate for on-site covered parking raised the street-side half of the complex up on piloti (facing page), while the private rear half of the complex was allowed to remain on terra firma (below right).

The distinction between the "almost Brazilian Modernism" of Milford’s front and the almost caricatured suburbanism of Milford’s back is boldly drawn with a linear skylight that pops out at one end, looking very much like some vestige of a moment’s fascination with the neorationalism of Aldo Rossi (above). But the lengthy skylight is more than architectural conceit: it opens a vein through the center of the six Milford Townhouses, drawing sunlight into the heart of units that otherwise would have been the dark, dreary railroad flats the site almost seemed to demand. And a dark, dreary railroad flat is not what any self-respecting yuppy envisions for his or her new $275,000 digs.
Since architects Fort-Brescia and Spear realized that the parked cars guarding the front doors of each of the Milford Townhouses were less than hospitable, they made sure that once inside, visitors would receive a reward for their earlier affront. One enters and is instantly greeted by a flood of sunlight streaming down from the linear skylight (photo above) that bisects the townhouses and caps the vertical circulation zone of each unit (section top). "We would like people to forget what they had to come through [the cars] to get in," offers Fort-Brescia somewhat apologetically. The natural light almost does the job. And even if it doesn't quite, however, the double-height living rooms with their glass-block-perforated walls allowing sun to seep in from the adjacent skylit circulation zone surely will (facing page).
P. S. I don't quite love you
An insider’s perspective on Arquitectonica’s contribution to Houston’s upscale housing stock

By Douglas Milburn

Several factors combine to make Houston housing a special design challenge. One is the climate, which is fiercely subtropical—sort of like Miami without the sea breeze. Before air conditioning, Houston residential designers had no choice but to be responsive to the heat and the humidity. Roof overhang— to keep out the sun — and air circulation were critical factors. Then there is the soil, a less-than-stable clay loam. Pile and beam was the accepted foundation method, because it elevated the structure above the dampness and also because it effectively insulated the house from a drift of that unsteady soil.

To these natural parameters Houston long ago added the sociopolitical fillet of zoning. In an earlier Houston, deed restrictions kept the city from developing in a wholly laissez-faire manner, but following World War II, those restrictions began to lapse at the same time that air conditioning became widespread and the oil boom was starting. The result of 40 years of building under those no-holds-barred conditions is a cityscape which, depending on personal prejudice, baffles, dismays, or delights observers. All in all, it’s an urban environment where one sees such unprecedented freedom that more than a few designers — and developers — have lost their way.

One of the city’s many paradoxes is the fact that a number of older neighborhoods have managed — either through lack of commercial interest or by maintaining the deed restrictions — to retain a certain coherence, which the designer disturbs at his own risk.

To this long-time Houston observer’s eyes, Arquitectonica’s residential responses to the city reveal some of the difficulties in coming here from the outside. Because of the constructional diversity, the city is remarkably forgiving of and receptive to facades, and except in the more conservative (and controlled) affluent neighborhoods, almost any design within reason will soon become an accepted, and acceptable, addition. The one affront to Houston’s visual permissiveness is scale. And it is here that Arquitectonica has had its major problem.

The Mandell Residences [pages 128-132], for example, occupy a site on the border between Southampton, one of the richest areas of the city, and Broad Acres, a much more modest little neighborhood of single-story postwar slab houses. While the four Mandell townhouses present an appealingly asymmetrical brick face to the large houses across Mandell Street, they turn a very cold three-story back on the less affluent neighborhood which starts, literally, at the rear property line [figure 5, page 118]. And while they nicely reflect the scale of the Southampton houses to which they belong, the sheer size of the four-unit complex totally overwhelms the adjacent low-pitch roofs to the rear. One assumes that the buyer would curtain the back windows — thus blocking an otherwise splendid view of the downtown skyline.

Two blocks away from Mandell, the Milford Townhouses are somewhat more successful [pages 129-132]. The area, originally known as the Turner Addition, was developed in the ‘30s as a mix of two-story apartment houses, brick duplexes and fourplexes, with some larger-than-average houses, all on small lots with narrow streets. The visual effect is one of medium density such as one rarely finds in Houston. Giving the impression that not a square inch has been wasted, the compact Milford project seems quite comfortable in this setting which, because of its proximity to the city’s art museums, is rapidly becoming one of the most desirable inner-city neighborhoods. Again, while the colorful facade works well here, the back wall where the units have high walls of glass, looks directly at a two-story brick house only a few feet away.

Moving a couple of miles north to the very similar Haddon houses [page 117], we again run up against the problem of scale. Put down in another ‘30s neighborhood — this one of mostly brick, one-story bungalows — the Haddon development is a visual shock, not for the colors or the rigid symmetry of the facade but because of the size. Here, at least pending the complete redevelopment of the entire area, tenants will have no choice but to look out upon an old-fashioned, low-profile neighborhood above which they appear quite literally to float.

Another mile to the north across Buffalo Bayou, the Taggart Park Townhomes [pages 129-132], with their sculptural, airy spaciousness and slight setback, are the most successful of the four projects. Before air conditioning, Houston was a city of big windows — you wanted as much circulation of the heavy, humid air as you could get. Here, Arquitectonica has surrounded residents with light, opening up huge parts of the outside walls to let in the sky, which is one of Houston’s underappreciated glories. A Gulf of Mexico sky, it is filled most days of the year with huge, playful cumulus clouds, and what a delight to live where that sky could be seen daily.

Compared to the rather severe lines of the other projects, the Taggart townhouses exude a casual, relaxed elegance very much in keeping with — if there is such a thing — Houston tradition. And in a city of yards, it is an extravagant Robinsons of worthwhile gesture to give townhouses at least the suggestion of a yard. The small green space provides both a buffer and a trail. Houston is one of the last places you are likely to find a large vine.

The sales record to date of the Arquitectonica projects has to be seen in the present Houston context and in the older structures which have been overbuilt. The softening of the oil market and the collapse of the peso combined to put severe pressures on the local developers. According to Bob Tolmach of Arquitectonica’s Houston office, the Haddon houses are all occupied, one of the Milford houses is occupied and one is sold, two of the Taggart houses are occupied and one is sold, and the Mandell project is still under construction.

Hines’s Law reads: Design sells; good design sells even better. Late-20th-century Houston is the laboratory in which developer Gerald Hines formulated and practiced — in a programmatic and spectacularly successful manner — this insight into successful urban construction. With the Taggart Park Townhomes, Arquitectonica has tapped a tropical vein which no designer up to now has consistently exploited here. So effectively do these four townhouses fit and reflect the climate and the topography, that it is likely—as soon as the housing market firms up again — we will see numerous copies of precisely the sort of playful, colorful, tropical openness which Arquitectonica has realized on Taggart Street.

Finally, three of the four projects are stucco. While it is true that stucco was popular in Houston some sixty years ago, neither the climate nor the shifting soil has been kind to those older structures. Hairline cracks appear which allow the year-round moisture access to the inner walls. One notes sadly that areas of the townhouses are already showing splotches, either of fading paint or of moisture.

Douglas Milburn is an associate editor of Houston City Magazine.

Architectural Record June 1985
As part of the new fenestration at Queen's Quay Terminal, architect Zeidler added shallow bay windows to both the east facade (at top above) and the west facade (directly above), essentially to admit light for the office floors and to establish a rhythm and less formidable scale for those elevations. On the west front, however, one of the bay windows extends to a depth of six floors for reasons of practical esthetics: to fool the eye into aligning some out-of-register spandrel beams (see also preceding pages). At the southwest corner, a three-story glass arcade (directly above and opposite) allows a ground-floor restaurant to flow outside the building onto the uppermost of three promenade levels, while an awning-covered stairway entices strollers to stores on the second floor. Here again, though, the aesthetic element has a practical purpose: it conceals scars left by the removal of a wing for refrigerated storage. A glass-enclosed swimming pool occupies the center of the apartment structure to command a view of the water.
To let light into the big building and to establish a variety of interesting and comprehensible circulation patterns, existing structure was removed for two skylit atriums (plans at right and section opposite, the lower three levels public space, the eighth level typical offices and the eleventh typical apartments). The largest and most important of these is the south atrium, which goes all the way down to the ground floor and for which four columns were sacrificed; the north atrium goes down only to the second floor. Another two columns were removed at the center of the third floor for a dance theater. On the ground floor, the chief circulation route lies on the east side of the building and leads to a diagonal route that opens to the south atrium; the main walkway takes people past interior storefronts, while the stores can spill past the building line to the outdoors in good weather. The atriums also serve to divide the 100,000-square-foot office floors into workable areas, as well as to provide views for office workers. The roof of the theater bears a landscaped park with a 20-foot waterfall; apartment dwellers have access to this park, to landscaped areas on roofs above the atriums, and to a steel bridge that overlies the central park. The mixed use at Queen's Quay is not only functional and commercial, but social as well. Though office workers have direct routes to their elevators, they inevitably commingle with the general public even in the elevators. Apartment dwellers have a private entry and elevator lobby, but they, too, have easy access to all public facilities. For the main entries to the building—offices (at top above) and apartments (directly above)—Zeidler devised modern-day glass marquees in emulation of pre-War elegance.
At the southeast corner of Queen’s Quay Terminal, Zeidler opened up arches at the base of the building to emphasize the intimacy of building and water. Intended solely as a public pleasance, the corner offers two pedestrian levels: the spare, sunny openness of an esplanade on the water, and the loftier vantage of a balcony reached by an outside spiral staircase and protected by the exposed structure.
The nobility of the Terminal Warehouse’s beefy reinforced concrete columns shows self-evident cause for preservation. Each mushroom capital spread to receive a square dropped panel, which in turn supported a concrete slab floor. Not only were columns removed to make space for the new theater and the south atrium (opposite), but the slabs were in many cases removed to expose the structure as sculpture. The square capitals now seen comprise two layers: the old dropped panel, topped by a smaller square of the old slab. The beams providing lateral support are new steel sections covered with gypsum board painted to match the concrete. Patrons of shops and restaurants on the second and third levels look out on activity below from railed balconies, while office workers receive light and views through internal windows.

Queen’s Quay Terminal
Toronto
Owner:
Olympia & York Development Limited
Architect:
Zeidler Roberts Partnership/ Architects—Eberhard H. Zeidler, partner-in-charge of design
Engineers:
M. S. Yolles & Partners Ltd. (structural); The Mitchell Partnership Ltd. (mechanical); Mulvey & Banani International Inc. (electrical)
Landscape architect:
Baker Saloma Hess Ltd.
Consultant:
Artec Consultants, Inc. (theater)
General contractor:
Olympia & York Development Limited
En rapport

Renovation of Hôtel Torrentius
Liège, Belgium
Charles Vandenhove, Architect

The Hôtel Torrentius commands a hilltop overlooking the historic center of Liège; the L-shaped building's narrow street front (center photo this page, far right in plan) faces north across lots cleared for urban renewal. To the east stands the birthplace of composer César Franck, and to the south, beyond the inner courtyard (photo bottom right) are ancient ramparts. The house was erected around 1561 as the residence of Laevinus Torrentius, a priest who served as private counselor to the prince-bishop of Liège. Torrentius was also a noted Latinist with a taste for classical art that is reflected in the mansion designed for him by Lambert Lombard. Although Lombard is credited with introducing the Italian Renaissance style to a still-gothic Liège, his Hôtel Torrentius retains a strongly medieval cast in its steep roofs, asymmetrical plan, and polygonal corner stair tower. The stylistic mélange was compounded by later owners of the house, such as an 18th-century burgomaster who added the limestone doorway and wrought-iron balcony at the center of the long courtyard façade (detail upper right), and inserted a domed staircase within. Various occupants plastered over murals, and tore out wainscots, mantels, and even entire stone gateways. At some point, much of the exterior masonry trim was shaved off the street façade, the corner stairs were removed, and new interior partitions installed, completely transforming the plan (section overleaf). Charles Vandenhove confronted a baffling archaeological puzzle with many missing pieces. Intent on reviving the spirit of Lombard's scheme, he determined, however, that a strict antiquarian reconstruction was neither feasible nor desirable. Nonetheless, within the limits imposed by its current function as Vandenhove's office and residence, with two rental apartments, the interior layout recreates the original parti. Decorative elements were repaired in a manner that clearly distinguishes new work from old, some anachronistic accretions were kept as historical evidence, and total lacunae were filled with unusually sympathetic modern replacements.
At the outset of renovation, cracked and sagging under the roof of the crypt (bottom left), most interior spaces had been altered radically since the 1560s. Once the warren of later partitions had been demolished, and meticulous surface inspection begun, Vandenhoove’s team discovered fragmentary Renaissance murals in the ground-floor reception rooms, as well as traces of polychrome decoration on joists elsewhere in the house. The most important murals, which were probably painted by Lombard’s assistants, adorn three walls of the grand salon at the south end of the main floor (this page, top and bottom right, and opposite). Similar to the “grotesque” frescoes that both Torrentius and Lombard had seen in Rome, these images include sphinxes, garlands, trompe-l’oeil paneling, and a Biblical quotation in Latin. After cleaning and stabilization had been completed (in collaboration with the Institut Royal du Patrimoine Artistique), a three-centimeter-wide depression was cut around each fragment to emphasize its integrity as an artifact, and the loss of all connective decoration. The new floor is polished local stone. Every ground-floor room is paved in a different color scheme. Oak planks salvaged from this level were reinstalled upstairs over fiberglass.
Stenciled wainscots and ceiling decor are the work of contemporary painter Olivier Debré, who believes that “the progressive rhythm of our own irrational age marries with the symmetry of sober, logical humanism more harmoniously than would mere plagiarism of Renaissance forms.” Vandenhoeye’s likeminded aesthetic is manifest in his own contributions: the glossy black limestone moldings of door frames and mantel, a custom-made oak table, and paneled shutters inset with stained glass. Through the casement, beyond the nine-clad wall of the Pavillon Cesar Franck, one glimpses the palace of the prince-bishops (bottom right).
The Romanesque spire of the Church of Saint-Barthélemy dominates the skyline beyond Vandenhove’s new square, the Place Tikal. Built on the site of a former brewery depot, the courtyard and new apartment block cover an underground garage. Low gabled pavilions at either end enhance the seclusion of the plaza, which supplies the only quiet public space in an area devoid of parks. Traffic noise is muffled by the plashing of a fountain obelisk (opposite top left). Run-off from the cylindrical basin trickles through a channel à la Louis Kahn that terminates in a marble-and-bronze sculpture, Tikal, by Anne and Patrick Poirier (opposite top right and bottom). The porticoes leading into the square (one of which boasts Vandenhove’s idiosyncratic “Ionic” capitals) derive from arvo, traditional porches at the entrance.
to Liège alleys. Rounded stoops, circular stairs, and stepped gables recall other regional prototypes. The frank expression of post-and-beam structure is one of the salient features of Mosan vernacular architecture. Vandenkove has adopted this unifying schema for his entire project—both as a tectonic armature and as the basis for a decorative system of grids and columns (details overleaf). Variation in the scale of his columnar orders gently implies a hierarchy of public and private domains. Program spaces range from shops and offices, located at basement and street level, to studio and multiplex apartments. The site belongs to the regional government, which issued 39-year leases to occupants through a deferred payment plan. Priority for housing was given to local residents displaced by the renovation project.
Every window in the new apartment building on the rue des Brasseurs is embellished with colored glass transom panes and a latticed iron flower-box frame (opposite). Vandenhove comments: "Such small details express by their tangible value that our essential effort has been to insure the primacy of the human being--not technology, and assert a possible alternative to the alienated, faceless occupant."

Renovation in Hors-Château Lodge, Belgium
Owner: Région Wallonne, Belgium
Architect: Charles Vandenhove, Architecte—Charles Vandenhove, principal-in-charge; Marie-Louise Delairese, Prudent De Wispelaere, Alain Diriz, M. C. Gaber, Michèle Lemmens, Claude Magniez, Alain Sabbe, Jacques Sequiris, Nicole Souchez, P. Deramay, design team
Consulting engineers: René Greisch, A. Lothaire, A. Maccon, S. Zovi
Sculptors: Anne and Patrick Poirier
Project manager: Service Logement de la Région Wallonne—Marie-Laure Roggemans, René Schoonbrodt
From object to space: an interview with Paul Rudolph

Architect Paul Rudolph has several skyscrapers under construction and has recently completed a pair in Fort Worth. Strongly opposed to Post-Modernist theory and practice, he goes his own way, still exploring esthetic and urbanistic themes in Modernist terms. For him, the clear articulation of the parts and functions of a building remains an essential goal. Skyscrapers, he fascinate him as immense objects that must be transformed into human-scaled space at the ground. Having spent his life relating the high to the low, the intimate to the grand, the ordered to the casual, an heroic, almost Wrightian attitude, producing an architecture of splendid gestures—all very much out of fashion for now. In a recent interview, Rudolph discussed the ideas that shaped his Fort Worth towers.

He is one of these days designing buildings in the particular way you do. You are off by yourself. I think it must take a great deal of courage to continue to do what has always interested you. In spite of what the most predominant segment of the profession is doing. PR: I have no alternative, so I don’t think it takes courage at all. I continue to be interested in urbanism and believe that one of the reasons we have so much difficulty with city design is that we don’t really understand scale and especially the scale of our buildings. The problem is new, and we haven’t come to terms with it. In designing the skyscrapers I am building in Singapore and Dakkara and I am not sure of the solutions. But recently discussing in Fort Worth, I have been influenced by the fact that people perceive the first six stories (or 120 feet) of a high-rise building in a different way than the rest of it. I came to that 120 feet because it has been shown (and I tested this myself) that most people can’t recognize other people from more than 120 feet. So what happens higher than this matters only as seen from a great distance. Therefore you can argue that above 120 feet, the high-rise tower can be scaleless, but below this level, down to the sidewalk, the building must achieve a human scale.

What makes a tower scaleless? When there is not a detail or proportion that can be related to a human being at all. If, for example, you can’t read the distance from floor to floor.

As you see in Fort Worth you have articulated the difference between the bases of the towers and their shafts by making the former relate to human dimensions and the latter without such reference? Well to a degree, but not quite. It’s a little bit more complicated. In the Fort Worth skyscrapers, the first six floors are indeed treated in a very different way from the remainder, and the remainder can be called scaleless, but that is not quite what I had in mind. One of the unique things in the Fort Worth towers is that they are always leading you around from one facade to another. They are not frontal. They are not on axis, or not usually at least. I wanted, oh how I wanted, to make a fine space between the two. But the space you create between two high-rise buildings is very different from the space you can create between two small buildings. How you define a space between very high buildings in a way that doesn’t make the pedestrian feel that he is at the bottom of a well?

Articulating a space among four high-rise buildings would be even harder, but doing it among four six-story buildings would again be the same problem. You see, I am fascinated by the differences between the rules which govern that which is small and the rules which govern that which is large. For instance, the ribbon window. There is many a marvelous low-rise building that very successfully uses the ribbon window. But put them on a skinny 40-story tower and it will look ready to twist, turn, and collapse. What about the rules that govern the relationships between large and small buildings? In Fort Worth you have two towers, each with immense vertical landmarks springing upward in the midst of a rather humble, low-rise 19th-century neighborhood, which your clients [sic] Saas is determined to preserve.

Yes, well you can’t pretend that a 40-story-high building is low. The towers are accused of not being “contextual.” But how, especially, the word urbanism, but I don’t understand the word contextual. If I read the literature correctly, and I am not sure that I do because I am not very good about splitting the polesmics of what I like to call the “Paint Modernists,” I think they mean leave out the cars or make it seem there are no cars. Certainly when you are designing a building you must pay attention to that. But you needn’t slavishly imitate its surroundings. I keep thinking of the Piazza San Marco, which took a thousand years to get itself built and is in so many styles, yet is one ensemble. But the problem today is that we don’t know how to make a skyscraper look old. It is not real, it really is absolutely overwhelming what it is next to. Unless its neighbor is another giant. But how, especially, did you try to handle this problem in Fort Worth?

I managed, in the 120-foot vertical span that counts in human scale, to make each of the four sides of each tower start at a different height from the ground. Several facades of the towers begin at a point only six or eight feet upward. Others begin at six stories, the rest are somewhere in between. At the base of the towers this creates a loggia of varying heights into which you can’t go. But at the pedestrian level, this loggia is in scale with some very delicate adjoining buildings. On every tower floor each one of the towers is different in a trapezoidal projection, adding three additional planes of window wall and additional floor area. In addition to the commercial attractiveness of this, the parts that are brought forward reflect themselves in the opposite tower. Each façade then appears as a cluster of towers in reflection, not a single one. I have also added what I call hinges, projecting glass-ined elements marking the intersection of each tower wall with the base. At the top of each tower are little leftover hinges that are not big enough to read the way the lower ones do.

Your towers stand almost alone on the skyline, being some distance from the high-rise downtown development of Fort Worth. You must have tried to create an outstanding double space. I don’t think the silhouette is strong enough. The project started out with only one tower, you know. It was always expected that a second tower would be added. So, before the first tower was finished, the second tower was started. Also, the two buildings appear to be almost the same height. I truly wish they were two separate ones, but six or seven stories higher. You once said that you would never do an all-glass building. What happened in Fort Worth?

Well, I went through whole thing about how to make these buildings seem more sympathetic with the low-rise buildings in the surrounding rehabilitated neighborhood. But in the end, faced the towers with brick to match the low-rise, but brick connotes weight and masculinity, so I couldn’t do that. Glass curtain walls turned out to be the most economically feasible, so I went ahead and used them. Besides, as I have said, my intention was to relate the three-story-high buildings by scale, by color, by material. By sheathing the towers in glass, I didn’t have the option of articulating the upper parts. The early high-rise buildings articulated, especially in Chicago, you could easily tell what was holding them up, what parts were infill, which elements were for ventilating and which for view. Mechanical systems, lighting systems, structural systems, entry sequences, these elements of a high-rise building play roles. When you sheathe a building you nullify all that. You can justify the sheathed and therefore scaleless high-rise building, but it would be difficult for me to justify the sheathed sixstory-high building.

If you articulate the first six floors, you are showing how the building is made to people at ground level, it is another matter. What happens above is not directly perceived, so you might as well sheathe it. This is what you have done in Fort Worth.

The second tower. On the subject of articulation you will notice that there are no large columns at the base of these towers; instead, I have slender single columns or clusters of three extra slim. A single column holds up a six-story-high part, but the various clusters are necessary to wind brace and carry the loads of the tower. What do you think of Fort Worth?

Well, apart from successfully articulating the lower parts of the towers from the upper parts, I was fascinated with the idea of these two towers, as it were, in space. Multi-story buildings, no matter how they are shaped, are either points or slabs in space. If they are points, you are very aware of their mass, and if they are slabs, so you are not aware of them as being in space. These two towers are a little sliver as if it were, for you can see through them as you walk by. The second tower is a little sliver that could barely make it. But then I think of them as a single tower, of two, like a box, and instead of a floor plan, the second tower is as if it had a hole. But then I think of them as a single tower, of two, like a box, and instead of a floor plan, the second tower is as if it had a hole. But then I think of them as a single tower, of two, like a box, and instead of a floor plan, the second tower is as if it had a hole. But then I think of them as a single tower, of two, like a box, and instead of a floor plan, the second tower is as if it had a hole. But then I think of them as a single tower, of two, like a box, and instead of a floor plan, the second tower is as if it had a hole.
City Center covers a four-block area and includes a 32-story tower for a bank and a paired, but not identical, 37-story tower. The two skyscrapers and the neighborhood are served by a 1,000-car parking garage. All three buildings are connected by glass-enclosed skyways. The Center adjoins a new hotel (the building with the diagonal facade shown in the rendering) and a two-block area where 19th-century buildings have been restored by Fort Worth developer Sid Bass. Included among the restorations is a fire station on the southeast corner of the garage block. Built in 1907, the fire station has become an integral part of the City Center parking garage and houses the lobby area for its elevators and office facilities. The entire complex enhances a new concentration of business growth in downtown Fort Worth. As the plans
indicate, each tower is organized within a square the size of a city block. The concrete parking garage takes two. Typical tower office floors are square, organized around a central core, with each corner extended to form a wing, providing corner offices with windows on three sides. Each tower is supported by 16 metal-clad column clusters extending five to seven levels above the ground. (For a detailed description of the towers' structural system, see RECORD, July 1982, pages 124-127.) The bank building has a four-story-high skylit atrium which can be seen in the sections below. Both towers are sheathed in gray glass chosen for its light-reflective coating and energy-efficient qualities. The office towers have been designed to meet and exceed Federal energy requirements.
Each side of each tower begins at a different height and extends to varying heights. Thus, each ground-level part—a bank, athletic club, shops, and circulation bridges—are articulated independently of the central mass. In Rudolph's words: "The variety of functions at the base is used to break down the scale, in an effort to make the scale at the base more sympathetic with the human being. Urbanistically, the towers resemble human beings or robots. They walk proudly among the three-to-six-story-high buildings as giants, for they cannot and should not disguise their size."
City Center
Fort Worth, Texas
Owner:
Bass Brothers Enterprises, Inc.
Architectural design consultant:
Paul Rudolph
Architect:
3D/International

Engineers:
CBM Engineers, Inc.—Joseph Colaco
(structural); 3D/International
(mechanical, electrical, plumbing);
Calvin Kort (elevators)
General contractor:
Linbeck Construction Company
Well-tailored stone

The craft of masonry is as old as civilization and is still very much with us. Owing to changes in the economy and developments in technology, the cost of architectural stone has changed little over the past decade, making it a cladding material that is competitive with many glass and metal curtain walls and precast concrete systems. Materials that require energy-intensive manufacturing, such as metal and glass, jumped in cost in the 1970s with the price of oil. Stone, which is merely pried from the earth and cut to shape at a modest energy expenditure, was not significantly affected by energy costs, which has helped suppliers hold prices steady.

Technological advancements within the building-stone industry have also been a force in bringing about the resurgence of stone. Most of these techniques were first developed in Italy and Germany and then transferred internationally. The greatest changes have been in fabrication processes. Computer automation, better cutting equipment, and new methods of management have increased output and improved safety in the plant. Fabricators have also devised new ways for finishing stone surfaces, among them, a technique for granite that uses high-pressure water jets to render the face of the stone with a roughened texture termed “thermal jet honed.” New systems for installing stone have also been developed, and old systems have been improved.

Of the five systems most often used, conventionally set stone is the most traditional. With this method, each stone is put into place separately and tied back to an inboard masonry wall, usually concrete block. The weight of the stone wall is picked up by metal anchors, which are in turn typically tied into each floor at the slab or edge beam. (The three installations that follow all illustrate conventionally set stone.) Stud systems substitute a light-gauge metal stud wall for the masonry backup wall. As with the conventional system, stones in the stud system are individually placed, tied into the stud wall, and carried by a mechanical anchor at each floor. Stone-faced precast concrete, which has routinely been fabricated in panels of up to 14 by 7 ft, has most often been used with limestone or marble veneer because of those stones’ compatibility with concrete in expansion. In making a stone-faced precast concrete panel, the stone is laid face down as part of the form into which the concrete is poured. Stainless steel loops anchored to the back of the stone serve as the bonding element between stone and concrete. Preassembled frames are a system in which stone is installed in a plant on steel framework, shipped as a unit to the site, and lifted by crane to position for fastening. Finally, lightweight panels of natural stone are being incorporated into conventional curtain walls.

The profusion of available stone colors, finishes, and installation techniques currently available present architects with the challenge to artfully select and detail the material in a style that is fitting for the time. Kohn Pedersen Fox Associates is one firm that has, through a series of commercial building commissions, emerged as an innovative leader in the use of stone. The three projects that follow (also see RECORD, February 1985, page 142, for Our Logan Square) reveal their attitudes—and some handsome details. Rather than treating stone like flat tiles that are monotonously applied, Kohn Pedersen Fox acknowledges the sculptural character of the material. Their cornice details, window frames, articulated joints (real and false), and recessed planes bring the walls into a restrained bas-relief, the surfaces washed with light and shadow, beautifully rendering the richness of the natural stone. Their well-tailored seams, evident from the profiles in construction sections, combine with tower massing to convey a sense of gravity appropriate to the inner tension of stone. They have also distinguished the color and finish of each specified stone by sympathetically juxtaposing it with other varieties of stone and/or finishes and with non-masonry materials. It is gratifying to see that the resurgence in stone technology is being taken up with verve by creative designers who are changing the face of stone. Darl Rastorfer

Technology is changing the way architectural stone is quarried, fabricated and installed, thereby increasing its availability. However, some things about stone haven’t changed. It is unique among building materials for having an absolutely site-specific source. At the Danby Quarry in Vermont, pictured here, seven strata of white marble are quarried parallel to the vein. Each stratum at Danby, as at every other quarry, has a one-of-a-kind color and physical property that cannot be matched with any other stone. This is, of course, part of the beauty of this natural material.

Richard Frutchey
At first glance, the Hercules Headquarters looks as though a sleek reflective-glass, curtain-wall building was erected inside a 19th-century stone structure. However, closer inspection reveals that the stone detailing has the tough, crisp restraint of contemporary design, and that Kohn Pedersen Fox Associates’ use of a stepped granite base with punched windows has as much to do with mediating the scale of a medium-rise building to its residential neighborhood as it does with bringing a tactile material to the level where people pass by and enter the facility.

The architects believe that the character of stone—its color, texture and inherent blockiness—is revealed by light and shadow. For this reason, the walls are detailed with projecting cornices, dentils, and an intricately raised frame around windows (see photographs below right). To further articulate the mass of the facade, windows are made with vertical reveals that capture a sliver of space between the stone wall and the central sheet of flush glass.

The granite, quarried in Rockville, Minnesota, is conventionally set. Typically 2 in. thick, each piece is tied to an 8-in. concrete block backup wall. Major support is given with anchorage at each floor slab. Here, a relieving joint in the form of a clip prevents any stacking effect from one floor to another. Surface joints around each typical stone are routed 1/4 in. wide and 1/8 in. deep. This detail, like other planar articulations, gives scale and reaffirms that the cladding is a thick, chiseled material. The stone is given a thermal finish that stands in contrast to the polished reflective surface of the blue-green glass.

Hercules Incorporated Headquarters
Wilmington, Delaware

Owner:
Hercules Incorporated

Architect:
Kohn Pedersen Fox Associates—
Sheldon Fox, partner-in-charge;
Arthur May, design partner;
Robert Evans, senior designer;
Demetrios Pantazis, project manager; Ken Rose, job captain

Stone consultant:
Gordon H. Smith Corporation

Norman McGrath photos
Details for the cornice and dentils and spandrel zone between window openings (opposite page) show a range of special stone profiles that were developed to give depth to the wall. A typical wall section (at left) delineates the standard anchors and ties used to attach the granite to the concrete block backup wall and the floor slab. The four detail drawings (above) show the assembly around the stainless steel hardware. Stone profiles were fully cut in the fabrication plant before being shipped to site. The silicone sealant is backed by a neoprene rope. A gasket seat is used between the anchor and the top of the stone. Channels at the top of the stones, cut to receive anchors, are filled with caulk.
70 East 55th Street will mark the American debut of British developer Heron International. The project is under construction on a narrow site (72 by 100 ft) between Park and Madison avenues in midtown Manhattan. Designed as a 26-story building, its 6-story base steps back 14 ft in accordance with zoning regulations, as do the crowning stories.

Stone will be used on the facade facing 55th Street, at the corners of the tower shaft in a quoining pattern, and on side and back faces of the stepped-back top office floors, where the pattern of individually punched window openings used for the mid-tower is organized as a collective decorative figure. The scale created by bold, crisp patterning of stone, glass, and brick give this small tower a sense of grandeur.

Whereas the sides and back are treated as an overall surface, the front uses stone toward a richer, more complex composition. The typical granite slab is 5 by 8 ft by 2 in., pushing at the material's dimensional maximums for greatest economy. Stones are conventionally set, being supported by the reinforced concrete edge beam of each floor slab, and individually tied back to either solid concrete or concrete block except at the darker recessed planes, where stone is attached to steel to keep the inside office dimension flush. Piers alternate where granite is set between 14-in. poured-in-place concrete and 8-in. block. Concrete block is used to turn corners (see opposite page).

70 East 55th Street
New York City

Owner:
Heron International Ltd., Fidelity Service Corporation

Architect:
Kohn Pedersen Fox Associates—
A. Eugene Kohn, partner-in-charge; William Pedersen, design partner; David Leventhal, senior designer; Myron Sigal, project manager; Bun-Wah Nip, job captain

Stone consultant:
Gordon H. Smith Corporation

The facade is given sculptural quality by shadow-casting slitted window reveals, curtain wall mullions, and a recess at the inner punched windows. To accentuate the apparent depth of the recessed plane, the color is changed from light gray to a darker, green-toned granite. Both stones, quarried at Rockville, Minnesota, and Jay, New York respectively, will be given a soft-looking, thermal finish (left).
Though stones in this conventionally set facade are individually tied back, major structural support is given at each floor by stainless steel anchors attached to the edge beam. Except at the sidewalk level, all stone joints will be sealed with silicone caulk. At the pedestrian level, mortar will be used for esthetics. The "rustication" at the corners (see rendered elevation) is a false joint scored into the stone to add depth and scale to the wall.
Much of Cincinnati is built in Indiana limestone, and its solid-looking structures contribute to the unique character of that city. When the Cincinnati-based Procter & Gamble chose Kohn Pedersen Fox Associates to design a major extension to their world headquarters, limestone seemed an appropriate choice in terms of corporate image as well as a sympathetic contribution to the urban fabric. The building consists of two low, six-story, perpendicular wings spreading out from a pair of 17-story, octagonal towers. There are two small pavilions at the base of the towers: one in the crux that serves as an entrance, and one at the rear used for the employees' cafeteria (see photo, far right).

The buff-colored Indiana limestone is enriched with granite and marble decorative motifs. Deer-brown granite quarried in Quebec forms a 6-ft base at the pedestrian level that lines a colonnade leading to the entrance while defining a large civic plaza. The granite is also used as square, decorative medallions, dowelled into place, that punctuate the limestone surface (see photos near right). White marble from the Danby quarry in Vermont articulates the front and rear pavilions and the tower drums. Marble was also specified for the super-scaled roundels that animate the towers' summits.

The limestone is typically 6 in. thick and 14 ft high. It arrived on site fabricated to finish size and was lifted and individually set into place. The stone's monolithic dimension spans from floor to floor for anchorage, and therefore requires no backup system. The ease of erection and reduction in quantities of materials that the large stones afforded had an economic advantage. Chunky stone is also used at sills and for coping (see section at right and opposite page), contributing to the deeply carved, rugged quality of the building.
The three types of stone used in the tower are each set differently (see section at left). Limestone, spanning floor to floor, is conventionally anchored to edge beams; but because there is no stacking of stone within the floor level, no backup system, such as block, was needed. Marble was fabricated in thin sheets, fitted with hairpin anchors, and incorporated into the pour for precast concrete panels. Panels were then bolted and welded into place. Granite medallions were doweled to recesses in the limestone. Because the stone is 6 in. thick, reveals are "meaty." The punched-out windows have a three-part infill consisting of vertical recesses at the sides and flush glazing in the middle (see section and plan at right). The windows were not set in a conventional frame; therefore, to effect a clean junction between glass and masonry, a dual-zone caulking was detailed to prevent water infiltration.

Procter & Gamble
World Headquarters
Cincinnati, Ohio
Owner:
Procter & Gamble Company
Architect:
Kohn Pedersen Fox Associates—
A. Eugene Kohn, partner-in-charge;
William Pedersen, design partner;
Robert Cioppa, managing partner;
Alexander Ward, senior designer;
Timothy Hartley, Lee Polisano,
project managers;
Benedict Curatolo, job captain
Stone consultant:
Kluesner Engineering, Inc.
Wall sconces
The Le Appliques collection of Italian-manufactured wall sconces is featured in a 20-page color brochure. The sconces have glass shades available in a variety of colors and patterns, and are intended for residential and commercial applications. David Thomas Lamps and Accessories, Charlotte, N. C. Circle 400 on reader service card

Vertical blinds
Vinyl louvers designed to block solar heat infiltration and perforated louvers intended to reduce glare are featured in a 28-page color brochure. The Zirion carrier system, said to reduce louver stacking space, is described. LouverDrape Inc., Santa Monica, Calif. Circle 401 on reader service card

Residential elevators
An 8-page color brochure features the Elevette—a custom-designed home elevator—and additional residential elevators and stairlifts. Diagrams show the assembly and installation of an elevator's steel rail guide and hardwood-paneled cab. Inclinator Company of America, Harrisburg, Pa. Circle 402 on reader service card

Doors
An 8-page color brochure features the Private Collection of mahogany doors with leaded glass windows or sidelights. Photos show several different models, available with a walnut or cherry finish. Specifications are included in the literature. Simpson Door Co., Seattle. Circle 403 on reader service card

Chairs
A 10-page color mini-brochure reviews the manufacturer's Express Seating program, which offers five-week shipment of orders. A collection of 14 chairs, available in a selection of wool or leather upholstery, is shown in the literature. Helikon Furniture Co., Inc., Taftville, Conn. Circle 404 on reader service card

Lamps
A collection of lamps designed by Gianfranco Frattini, Rodolfo Bonetto, Toshiyuki Kitae, and Ferdinand Porseh is featured in a 12-page brochure. Color photographs of each lamp are accompanied by technical information and dimensions. Nessen Lamps, Bronx, N. Y. Circle 405 on reader service card

Wood ceilings
The manufacturer's coffered wood ceiling system, designed by Michael Anthony, is featured in a 4-page color brochure. Diagrams show the system components, including cove moldings, track moldings, and lay-in panels, which are attached to a T-bar exposed-grid suspension system. Capaul Corp., Plainfield, Ill. Circle 406 on reader service card

Garage door
The manufacturer's new garage door, made of roll-formed embossed steel Thermacore panels, is featured in an 8-page brochure. The panels' seal, track, and balancing systems are reviewed in the literature. Thermacore, Williamsport, Pa. Circle 407 on reader service card

Systems furniture
A 32-page brochure reviews suggested solutions to space planning problems that incorporate the manufacturer's Series 9000 systems furniture. Drawings of system components and descriptions of the hardware designed to attach the furniture to panels are included in the literature. Steelcase, Grand Rapids, Mich. Circle 408 on reader service card

Fabric structure components
A folder with several inserts contains information on fabric structure components, including inflation systems, revolving doors, and air leaks. Diagrams show the dampers, vibration isolators, and filtered inlets of the two inflation systems. The Kirk & Blum Manufacturing Co., Cincinnati. Circle 409 on reader service card

Laminated glass
Category II laminated glass—which consists of two layers of glass and a .03-in. PVH interlayer—is shown in a 4-page color brochure. Photographs and descriptions of the manufacturer's selection of bent glass are included. Safety and sound-control features are reviewed. Laminated Glass Corp., Telford, Pa. Circle 410 on reader service card

Light-control switch
The H-Moss 200 light-control/occupancy-sensor switch is described in a 4-page color brochure. The electronically controlled, passive infrared sensor is said to detect and respond to changes in radiated heat and movement within a room. Harvey Hubbell, Inc., Bridgeport, Conn. Circle 411 on reader service card

continued
Product literature continued

Lighting
A 4-page color brochure reviews the results of 107 lighting tests, which considered such factors as glare on the computer screen and levels of light distribution. The performance of the manufacturer's lighting system is described. Peerless Lighting, Berkeley, Calif. Circle 412 on reader service card

Space-planning software
Cadavantage space-planning and facilities management software is described in a 6-page color brochure. The software programs allow designers to create elevation and plan view drawings, generate orders, and control inventory. Haworth Inc., Holland, Mich. Circle 419 on reader service card

Tile
The manufacturer's four new lines of quarry tile—including 26 colors and 11 sizes—are featured in an 8-page color brochure. Photos of each line are accompanied by product specifications. American Olean Tile, Lansdale, Pa. Circle 413 on reader service card

Single-ply roofing
A 6-page brochure reviews the properties of a new urethane single-ply roofing membrane. The roofing system's operating temperature range and chemical and puncture resistance are described in the literature. The system is said to be bondable to any roofing substrate. Futura Coatings, Inc., Hazelwood, Mo. Circle 419 on reader service card

Underfloor heating
The manufacturer's underfloor heating system, which uses plastic distribution piping and emits heat by radiation, is described in an 8-page color brochure. Diagrams show how the system can be installed in both concrete and suspended wood floors. Wiremold Co., Rockford, Ill. Circle 414 on reader service card

Bathroom fittings
A 12-page color brochure contains a selection of German-manufactured custom shower heads, hand-held showers, and sink, bathtub, kitchen or bar fittings. Photographs of each product line are included in the literature. Grohe America, Inc., Wood Dale, Ill. Circle 420 on reader service card

Raceway
A 4-page color brochure includes photographs and a description of the manufacturer's new aluminum raceway, designed to distribute power, data, and telephone wiring in commercial installations. The raceway's anodized finish is said to be corrosion resistant. The Wiremold Co., West Hartford, Conn. Circle 415 on reader service card

Lighting
The manufacturer's Form Ten Glow Top luminaires for outdoor lighting are featured in an 8-page color brochure. Performance data for the four available optical systems are reviewed in the literature. Housing, ballast, reflector, and pole specifications are included. Garico Lighting, San Leandro, Calif. Circle 421 on reader service card

Shingles
New Dimensional III two-ply fiberglass shingles, faced with ceramic-clad granules, are one of several shingle lines featured in an 8-page color brochure. Dimensions and available color selection of each line are included. The Celotex Corp., Tampa, Fla. Circle 416 on reader service card

Vinyl flooring
Descriptions, specifications, and technical data on the manufacturer's line of commercial sheet vinyl and vinyl flooring tile are included in a 24-page color brochure. The flooring is asbestos-free. Tarkett Inc., Parsippany, N. J. Circle 422 on reader service card

Toilet
The manufacturer's Ultra-One/G toilet, which is said to use only one gallon of water per flush, is described in a 4-page color brochure. Diagrams show the flushing cycle. Installation information is included in the literature. Eljer Plumbingware, Pittsburgh. Circle 417 on reader service card

Windows
A 4-page brochure compares the U-values of the manufacturer's 1-in. insulated glass, thermally broken aluminum windows with insulating glass, and non-thermally broken aluminum windows with non-insulating glass. Window and glass thermal performance terminology is reviewed. Hope's Architectural Products Inc., Jamestown, N. Y. Circle 419 on reader service card

For more information, circle item numbers on Reader Service Card

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Wait and see

The array of international designers represented in the inaugural collection of Spatial Environmental Elements (SEE) includes both rising stars like Frenchman Philippe Starck, who has designed furniture for such diverse clients as his country's president and a café and nightclub on two different continents, and others still relatively unknown in this country. The pieces were featured at the 1984 Milan Furniture Fair by their respective manufacturers and subsequently brought together—and into the United States—by partners Leora Douek and Carolyn Walton, who formed SEE as an experimental adjunct to their small, but thriving, interior design firm.

Like Starck's varied clientele, the SEE furniture is both serious (in intent) and whimsical (in execution). Toward that end, and in an attempt to be sympathetic to the spatial limitations of apartment living, several pieces take functionalism to the extreme and are, in fact, multifunctional (the adjustable Sube y baja, for example, can be used as a coffee table and raised for dining). But the collection's interest is by no means limited to the mechanical, for it has its own facile wit. Items like the easy-to-assemble flat-chested, big-shouldered Miss Wirt chair and the two-tier Eclipse table, whose upper surface passes over the lower one in partial or total eclipse depending on user need, also display a welcome sense of humor.

Douek and Walton were careful to limit their selection to pieces they felt would be in style for years to come. The result is a collection of basic, compatible items whose destiny may well be as classics of the future. Douek and Walton are gradually adding new pieces to the
group and reinvesting all profit in expanding inventory and building a stock. Fortunately, they have the fallback position of their interior design firm, and they are well aware that had they started without it, their incentives—and their motives—might have been a lot different. K. D. S.

Spatial Environmental Elements, New York City.

Circle 300 on reader service card

1. Eclipse, R. Isern, G. Bernal.
2. Rataplan, R. Tapinassi.
4. Pepper Young, P. Starck.
7. Spring Chair, R. Arad.
8. Sube y Baja, R. Heritage, R. Webb.
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*The Security Bolt also meets applicable ANSI Grade I standards and is UL-listed for Class A doors.

See us at the A.I.A. show
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Circle 94 on inquiry card
Keeping heat out and letting light in

The joint efforts of Hurd Millwork, manufacturers of residential wood windows and patio doors, and Southwall Technologies, makers of Heat Mirror 88 transparent insulation, have produced the new Sunbeter line of windows that is intended to perform what may appear as two mutually exclusive tasks: admitting the sun’s light while excluding its radiant heat. Southwall’s clear, polyester film insulation, which has a heat-reflective metallic coating, is suspended between the two panes of Hurd’s double-pane windows in order to do just that.

Although many types of metallic-coated tinted glass successfully reflect the sun’s radiant heat, they often block out a substantial portion of the available natural light. Laboratory testing has shown, however, that even though Heat Mirror 88 has a 33 percent lower relative heat gain than tinted glass, it still admits approximately 66 percent of the sun’s visible light. Heat Mirror also improves insulation performance by reflecting heat back toward its source, to the outside in summer and to the inside in the winter.

The Sunbeter line includes casement, double-hung, and fixed windows and patio doors with Ponderosa pine frames and sashes and either aluminum or wood exterior cladding. Hurd Millwork’s windows can also be specified with Southwall Technologies’ Heat Mirror 88, designed for colder climates and intended to maximize solar heat gain and insulation values. Hurd Millwork Co., Medford, Wis.

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**Windows**

*Series 600* windows with operable vents are designed to fit inside 2 1/2-in.-thick aluminum frames. The windows can be specified with any combination of awning or hopper vents and fixed panes. Glazing or insulating panels up to 2 in. thick are available. Louisiana-Pacific, Barberton, Ohio.

*Circle 301 on reader service card*

**Aluminum panels**

The *Citation* line of aluminum panels with a concealed fastening system is intended for use in commercial applications, including mansard roofing, facades, fascia walls, and equipment screening. The panels are made from 0.024-gauge sheet aluminum and are 12 in. wide by 12 ft long. Reynolds Metal Co., Asheville, Ohio.

*Circle 302 on reader service card*

**Faucets**

The *Top Brass 73 Series* of sink, bathtub, shower, and bidet faucets is available with a coordinating line of towel bars or rings, hooks, and toilet-paper holders. The line comes in 11 metal finishes and three enameled colors. Harden Industries, Los Angeles.

*Circle 305 on reader service card*

**Light fixtures**

The *Mackinaw* hanging uplight is intended for lobbies, atriums, stairways, and other public areas. The fixture has a 22-in. conical shade with a glass sphere at the tip to diffuse light. The power cord spirals around a steel-cable support line. Lavin Lighting Inc., New York City.

*Circle 306 on reader service card*

Continued from page 151

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**Grout**

The manufacturer's new *Dense Grout*, made from a mixture of sanded Portland cement, washed quartz aggregate, and color pigments, can be used for quarry tile, brick, cement pavers, slate, and ceramic tile installation. The grout is available in 18 colors and is said to be resistant to alkalies, abrasion, and temperatures up to 500°F. W. R. Bonsal Co., Charlotte, N. C.

*Circle 307 on reader service card*

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Grab bars
The manufacturer's new line of heavy-gauge stainless steel grab bars have a finish that is said to resist corrosion. The bars are available in diameters of 5/8 to 2 in. and in lengths of 18 to 41 in. Electrolurgy, Inc., Irvine, Calif. Circle 310 on reader service card

Cooktop
The control panel of the manufacturer's new 36-in. Incomparable gas cooktop is recessed flush with the cooktop surface. Other features include burner grates said to be thicker than standard grates and a burner cap intended to prevent food particles from falling below the drip pan. Dacor, Pasadena, Calif. Circle 311 on reader service card Continued on page 187

Moldings
A line of wood-core, metal-clad moldings is intended for installation along walls, across seams, and around corners and windows. The moldings are said to be lightweight and easy to install. They are available in 12 lacquer-coated finishes, including brass, copper, and chrome. CMF/Colonial, Brooklyn, N. Y. Circle 307 on reader service card

Door levers
A new line of door levers designed by a group of Italian designers that includes Ettore Sottsass, Gregotti Associati, and Gae Aulenti is now available in the United States. The lever sets, door knobs, and coat-and-hat hooks are die-cast of solid brass and are finished in brass, chrome, ebony, and a selection of colors. Fusital, Div. of Valli & Colombo (U. S. A.) Inc., Duarte, Calif. Circle 308 on reader service card

Exit signs
BetaLume exit signs are self-luminous and are not tied into a building's electrical system. Each unit has a gray casing and is available in a selection of interchangeable facings. Saunders-Roe Developments, Inc., Winston-Salem, N. C. Circle 309 on reader service card

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Site furniture
The Ultrum line of site furniture includes benches, trash receptacles, and planters. The units have powder-coated metal frames, glass-fiber-reinforced concrete bases, and wood surfaces. The benches are 72 in. long and 20 in. wide and are available in oak or redwood. 

Chairs
The Walter K. Collection of chairs and coordinating ottomans was designed by David de Mayo. Low- or high-back chairs and lounge units with flexible backrests are available. The collection is available in leather or fabric upholstery. Brayton International Collection, High Point, N. C.

Patio door
A new center-swing three-door unit of SwingSet patio doors is now available. The unit has double-contact weatherstripping and adjustable sills that are said to reduce air infiltration. The door has brass hardware and is available prefinished or unfinished. Morgan Products Ltd., Oshkosh, Wis.

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Elevator control system
The new Traffic Master 200 elevator control system is intended for low- and mid-rise office buildings with elevators traveling from 100 to 450 ft per min. The system can be programmed to monitor elevator speeds, waiting times, and traffic patterns. Armor Elevator Co., Inc., Louisville, Ky. Circle 315 on reader service card

Carpet
The Snowflake carpet is part of the manufacturer’s new Britannia Collection of reproductions of authentic 18th- and 19th-century English rug designs. The carpet is made on a Brussels loom and is available in custom-specified colors. Stark Carpet Corp., New York City. Circle 316 on reader service card

Work surfaces
Three different-sized work surfaces that can be mounted on the partitions of the manufacturer’s System 2 Plus open office system are now available. The table tops come in a selection of finishes, including oak and walnut. Panel Concepts, Inc., Santa Ana, Calif. Circle 317 on reader service card

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