Progressive Architecture

July 1980
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Progressive Architecture

Editorial: The delight deficit

Architectural design

Introduction: The small building artistically considered
A group of small buildings and additions to existing ones show that good quality is not reserved for large commissions.

Putting up a good front
Designed by Taft Associates, an addition to the Quail Valley sewage treatment plant in Missouri City, TX, offers a turn-of-the-century face to neighbors. By Peter Papademetriou.

Along the path
The Flat Rock Brook Center for Environmental Studies in Englewood, NJ, designed by Ballou-Levy-Fellgraff with TEA, has a central hall that becomes part of a nature path.

Material connections
The Keyes, Condon & Florance addition to St. Albans School, Washington, DC, relates to both the style and the siting of older buildings on campus.

A fitting image?
Designed by Architect Werner Seligmann to fit on the site of a smaller facility, the Olean (NY) Fire Station deals with the problem of fitting required spaces to the restricted area.

Inviting light
Architects Blunden and Barclay have designed a secondary sanctuary for the Euclid, OH, Lake Shore Christian Church that uses a building form reflecting its neighborhood.

Knoll makes its move
As part of a long-range plan for commissioning new products from well-known architects and established designers, Knoll has opened two new showrooms: one in New York by Venturi, Rauch & Scott Brown; one in Boston by Gwathmey/Siegel.

Hertzberger's variations
The recently completed music center in Utrecht, Holland, was designed by Herman Hertzberger to be used as well for theater productions, operas, and large meetings.

Technics
Specifications clinic: Specifying reasonable samples

Taming little giants
Fast becoming a necessity in every office are small computers that automate many of the functions essential to operating any office; others specifically for architectural/engineering firms.

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Cover: Central Fire Station, Olean, NY, by Werner Seligmann. p. 66. Photo: Jon Reis.
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The delight deficit

Although we may not be able agree on corrective actions, the fact remains that day's architecture as a hole offers too little of the old Vitruvian triad.

We don't have to administer this simplistic test to know how the majority of the American public would answer it—and most of the architectural profession, too, for that matter. Even those who get most indignant over new-fangled ornament are likely to agree that most recent architecture is deficient in Vitruvius' quality of "venustas"—conventionally translated as "delight." The overall effect of current construction, combined with continued demolition, is a serious delight deficit in our built environment.

If you doubt that, consider the outcry over the demolition of even the most ordinary of structures from before World War II. A recent instance involves the razing of the Bonwit Teller store on New York's Fifth Avenue. I will disturb some of my colleagues by saying that this 1930s structure was undistinguished; not included among the city's hundreds of designated landmarks, it was outclassed by many nearby structures and had value only as an innocuous background building (P/A, July 1979, p. 25). The demolition process made local headlines when the order was given to smash some exterior reliefs that were being saved by the Metropolitan Museum; though salvaging these period pieces would have been a civilized act, they hardly belonged in a major museum of art. The real concern that drives preservationists to defend such mediocrities is the certainty that new construction on this site will have no comparable grace elements—no small incidents to mediate between viewer and building bulk, no little symbols to become fond of.

What do we do when we travel to another place? Those of us who are in or close to the architecture profession usually examine some of the new buildings because we feel we should; then we try to look at some of the old ones for recreation. Preservation efforts, if well done, give us the double satisfaction of viewing present accomplishment with old-fashioned aesthetic interest.

My most vivid memories of Cincinnati, which many of us just visited for the AIA Convention, are of the Victorian exuberance of the Music Hall, the Plum Street Temple, and the hillside neighborhoods, along with the Art Deco glories of the Union Terminal and the Netherland Hilton. Of the Modern work in town, only the bold form of the embankment at the riverfront park sticks in my mind as a comparable aesthetic experience.

Architectural tourists, it could be argued, have different needs from regular users. Formal idiosyncracies and ornament may entertain the visitor, but comfort and convenience are going to count more in everyday experience. Actually, however, nobody has to give up aesthetic satisfaction for practicality. It is only Modern Architecture, influenced by the technical concept of efficiency, that links abstinence from delight with functional soundness.

More direct, hardheaded reasons for the current delight deficit, however, lie in the economic dictates of our society—in the drive to extract the greatest profit from every square foot of private property—or to meet the codified requirements of public construction at the least cost.

Although Modern Architecture lends itself all too readily to such bottom-line economics or bureaucratic strictures, its higher potentials have been demonstrated repeatedly in great landmarks designed for corporate and government clients. Routine, thoughtless Modern work, by contrast, lacks even those camp flourishes to be found in the poorer efforts of the preceding eclectic period (such as that Bonwit store).

The search for delight has diverted the course of Modern Architecture occasionally in the past—towards Arabian Nights arcades and grillwork in the 1950s, towards cozy evocations of Mediterranean hill towns in the 1960s. Mainstream Modern has passed through the alienating phase mislabeled Brutalism and into a more promising Minimal and High Tech phase; shimmering planes, sharp edges, and taut framework can yield very substantial delight, at least for the architecturally informed. Do we then need the historical allusions and applied ornament of Post-Modernism?

In the area of design, as such, that remains today's unresolved dilemma: should we discipline ourselves to generate formal interest by manipulating necessary building elements (p. 66, this issue, for instance) or should we frankly apply adornment (p. 58)? Ultimately, of course, our contribution to the aesthetic quality of the environment depends not so much on which strategy is chosen as on how well it is executed. There is a serious deficit of delight in our built environment, and we should all be striving to close the gap.
Jens Risom's use of the suspension seating concept in Howe's new Tempri line achieves a level of comfort often missing in chairs designed for working and listening situations.

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Energy-conscious world-view

In your April issue on pages 162-165, Nory Miller wrote a perceptive article about two recent projects of ours. Although I believe that it is a journalist's first prerogative to be critical and that most architectural magazines have abdicated that role, it seems poor form to critique work not presented or familiar to your readers. Ms. Miller does just that by bringing up and then criticizing a position paper on energy and architecture that I have recently written.

Specifically she attacks the paper for failing to connect technical and formal issues, for attempting "to give the implications of fuel shortages a level of theoretical significance it cannot possibly possess," and then vaguely impugns my community design work and my reasons for writing the paper as a personal search "for an incontrovertible sense of purpose."

This last point is partially true, but it seems a little pompous and gratuitous. It could no doubt be applied to most modern day professionals including herself. As for her second point, my colleagues and I do not claim that "fuel shortages per se have any theoretical significance for architecture, but that one's attitude toward energy has become a leading symptom of one's world view. We are championing a growing attitude that treats nature and our planet with more humility and respect than did the Modern Movement which paralleled a period of hyper-exploration of natural resources. Expensive energy has forced us to reexamine our links to the natural world and to develop a new paradigm to replace the mechanistic analogy of Modernism and the linguistic analogy of Post-Modernism.

More importantly about the relationship of technical and formal issues, is of course the Gordian knot that we're all trying to untie. To say that the new architecture will look softer than harder, be built of materials more natural than synthetic, be more hand-crafted than machine-made, and derive some of its vocabulary from earlier, more climate-responsive styles is not the point. The way the new architecture will look depends on the history, culture, climate, resources, building practices, imagination, and aspirations of a particular region or subculture. There will be no cookbook or manifesto by which to make formal decisions—just as there was none for the early Modern Movement. Look at the architectural vocabulary and styles of Le Corbusier, Mies, and early Wright: certain ideas were common (e.g., spatial and structural continuity) but the formal styles were very different. There will be an even wider plurality of styles and vocabularies in the newly emerging architecture. Even within a given region, there is still room for different styles because our new energy standards are still loose enough to permit us to indulge in favorite architectural styles or conceits. Eventually, however, regional syntaxes will evolve as we are squeezed into tighter and tighter architectural corners by costlier and costlier energy. As the paper painstakingly points out, there is no "natural" aesthetic per se—nature appears in many hats—mechanistic at the atomic scale, abstract at the microscopic scale, organic at the vegetable scale, and futuristic at the landscape scale. What will distinguish the new styles from Modernism and, to some extent, Post-Modernism is a conscientious sensitivity to climate, site, context, and energy.

Doug Kelbaugh, AIA
Kelbaugh & Lee Architects
Princeton, NJ

Awards reactions reviewed

It was depressing to read such a collection of negative reactions in the "Views" section of the April issue. Criticism should either be reportorial or evaluative, and such nonspecific, inarticulate, off-the-cuff rejection of Post-Modern Expressionism is cultural Philistinism, especially in a profession that pays such lip service to the art of architecture. It was especially surprising to read Mr. Gwathmey's comments and remember his association with the prestigious New York Five in the early years of this past decade. It was that very group that was then asking for understanding and openness. I can only guess that it has been a long, frustrating dry spell of awards since the Whig Hall citation (Jan. 1973).

To believe that theories of architecture are actually formulated or manipulated by the media implies a cynical or immature attitude that is tragic. The client most assuredly knows both what and who he is getting. To suggest that the Piazza d'Italia (Nov. 1978), Eisenman's inaccessible void (Jan. 1979) or the Best Products competition (Feb. 1980) contain no merit for artistic exploration and are nothing but media exhibitionism is an insult to the talent of some very intelligent and obviously capable men.

We can only hope that in the future, communication through the professional journals will be attempts toward responsible criticism.

Ken Drughon
Knoxville, Tn

Hold the Ionic columns!

There was a time not so long ago when I eagerly looked forward to the monthly delivery of your magazine. As a student, I saw it as a leading barometer of contemporary architectural thought and as an important forum for the presentation of new designs. I now only hope that it is not too late for you to recapture these qualities. Who is it that decided for the rest of us that Modern Architecture is now officially passé? I have not yet been around long enough to become attached to any one particular philosophical or principal of design. I still manage to love architecture from Gaudi to Le Corbusier to S.O.M. Why am I now being told that I'm out of fashion unless I include an Ionic column or two, or at least a meaning-packed vernacular allusion in my designs? Or am I obliged to go out and collect my roll of cyclone fencing and two-by-fours and proceed to dismember some nearby helpless tract house?

God forbid I should hint that you have a responsibility to anyone, but there is a generation of soon-to-be architects out there who think P/A was occasion guidance and inspiration. Unless you honestly look forward to helping us all along the road to un-employment, or to seeing a future filled with violet and green gypsum-board colonnades with chain-link infill, would hope (or rather plead, beg, and pray) that you rethink your present evaluative criteria and again present the stimulating and diverse collections of designs which made Progressive Architecture the leader it is today.

James A. Goring
Student of Architecture
University of California
Berkeley, Ca

Credits due


Extended Use Honor Award for the New York Townhouse (P/A, May 1980 p. 38) should have read: Robert A.M. Stern and John S. Hagmann, architects
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The knowledge business
Progressive Architecture announces its 28th annual P/A Awards program. The purpose of this competition is to recognize and encourage outstanding work in architecture and related environmental design fields in the design phase, before it is executed. Submissions are invited in the three general categories of architectural design, urban design and planning, and applied architectural research. Designations of first award, award, and citation may be made by the invited jury, based on overall excellence and advances in the art.

The jury for the 28th P/A Awards program:
- Edmund Bacon, FAIA, vice president, Fondex International, Ltd., Montreal;
- Jacques Brownson, director of state buildings, State Buildings Division, State of Colorado, Denver;
- Galen Cranz, assistant professor of sociology in architecture, University of California, Berkeley;
- George E. Hartman, Jr., FAIA, partner, Hartman-Cox Architects, Washington, DC; Ralph Knowles, professor of architecture, University of Southern California, Los Angeles; Richard G. Stein, FAIA, The Stein Partnership, New York, and adjunct professor, School of Architecture, Cooper Union, New York.

Judging will take place in Stamford, CT, during September 1980. Winners will be notified — confidentially — before Oct. 1. First public announcement of the winners will be made at a presentation ceremony in New York in January 1981, and winning entries will be featured in the January 1981 A. Recognition will be extended to clients, as well as professionals responsible for the work. P/A will arrange for coverage of winning entries in national and local press.

Eligibility
Architects and other environmental design professionals practicing in the U.S. or Canada may enter one or more submissions. Proposals may be for any location, but work must have been directed and substantially executed in U.S. and/or Canadian offices.
All entries must have been commissioned by a specific client. Only work initiated on the client’s behalf — not in fulfillment of academic requirements — is eligible (but design teams may include students). P/A reserves the right to contact the client for verification before the final list of winners is determined.
Architectural design entries may include only buildings or complexes, new or remodeled, scheduled to be under construction in 1981 — that is, not completed in 1980 and scheduled to commence before 1982.
Urban design and planning entries may include only proposals or reports accepted by the client for implementation before the end of 1981. Feasibility and continued on next page)
implementation strategy should be documented.

5 Research entries may include only reports accepted by the client for implementation before the end of 1981. Submissions should deal with programming, design guidelines, or post-evaluation for a type of project or problem. Research methodology and ways of disseminating findings should be documented.

Entry form: 28th P/A Awards Program

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

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The undersigned confirms that this entry meets eligibility requirements (paragraphs 1-5) and that stipulations of publication agreement (paragraphs 6-7) will be met. Entry has been reviewed for compliance with submission requirements (paragraphs 8-15).

Signature ____________________________________________
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Corning's glass treasurehouse opens

Birkerts' imaginative structure is like an irregular flower. . . . " Though it looks like florid promotion, there is a certain accuracy to this passage from a press release on the Corning Glass Museum in Corning, NY. Swelling out to the most visible corner of the rambling Corning Glass Center complex, the new structure is obviously flowerlike in the striking slivers of textured glass, and in its satiny texture.

The new museum designed by Gunther Birkerts & Associates of Birmingham, Mi., impresses the visitor at first sight with its uniqueness. Although visually attached to the existing complex of offices, labs, employee facilities, and more conventional glass industry exhibitions, this is clearly a rarefied place. Its mingled calm and agitation, fluidity and precision are qualities shared not only with exotic flowers, but with its own previous contents: glass objects from all of human history. They are peculiarly appropriate qualities to a structure that must accommodate both scholarly research and vast numbers of tourists.

Though closely linked to the Corning Glass Company and supported by it, the museum is a separate, nonprofit entity, and its collections contain many items donated by others. Established in 1951, the museum has assembled almost 3,000 objects and an even greater number of books, and annually draws over 800,000 visitors to this remote corner of New York State. But it has never had an identifiable home—or place to show its collection, the major part of which is now on display.

The last installation of the museum, an adjoining portion of the Glass Center, was submerged by floods that struck Corning in 1972. One of the first requirements for the new structure, therefore, was to raise the collection above highest predicted water level. Hence the museum and library hover above more mundane loading facilities and offices. (After-flood reconstruction of Corning has also included a fire station by Birkerts' firm—P/A, Jan. 1974, 66—and a thoughtful renovation of the town's main street—P/A, Nov. 1976, 73.)

For the curly perimeter of the museum, Birkerts has used a newly developed opaque glass panel, made by vacuum-depositing stainless steel on the back of textured glass. The effect is of a subdued shimmer, metallic yet translucent, that is initially puzzling and ultimately appealing. It is tempting to speculate about the future of this material and other potential developments with glass.

The band of openings that runs continuously around the exterior indicates the architect's interest in reflecting natural light. Located at knee height for visitors inside the museum, the band of vision glass is bounded by two parallel bands of angled mirror. The viewer can look down at an angle on the close-up landscape; looking straight ahead, into the angled mirror, however, produces a periscope-like view—a sinuous, linear one—of the surrounding Corning complex and the town and hills beyond.

Unfortunately, the installation, designed by Paul Seiz, lines up display cases along much of this perimeter, and the visual superimposition of glass objects in glass cases against a mirrored landscape is more confusing than beguiling. How much better if display had been held back from this unique exterior wall. There are other questionable aspects of the interior treatment, particularly the stretches of ordinary gridded hung ceiling that remain visible—in curved slivers—despite blackout paint and theatrical lighting.

The very concept of the structure and the many tricky details involved in carrying it out are all debatable. One thing about which there is no doubt: Birkerts has shown his usual fearless individuality. [JD]

NEOCON 12 reflects year of consolidation

This year's edition of the contract interiors exhibition and conference at Chicago's Merchandise Mart, June 11-13, represented something of a breather for producers and visitors alike. Although there were new exhibit spaces and new introductions, there were no magnets on the order of last year's. Many of the newly introduced products were meant to round out offerings, particularly in the area of office systems. Some were reintroductions of historic pieces, such as an Eileen Gray table at Stendig or the Wagner stool reproduced by Thonet in connection with their 150th Anniversary display.

The strongest direction that could be detected at this year's event was in the area of color. A distinctive palette of hard-to-name colors—brownish pinks and lavenders, bluish greens—seemed to be spreading rapidly through textile lines and across floors and walls. A very similar set of colors had appeared last year—substantially all together—in Michael Graves's Mart showroom for Sunar.

As it so often has, NEOCON began with an address on the future, this one delivered by Edward Cornish, president of the World Future Society. He was able to deliver with great good humor a forecast that ranged from economic dislocation to scattered revolution. The good news is that computers will soon make all of us "walking encyclopedias"—assuming we have the freedom and nourishment to walk. And those of us who survive till about 2030 A.D. may then enjoy a "Golden Age."
AIA meets in Cincinnati

“Challenge/Response/Opportunity”

Speakers and seminars at this year’s convention addressed themselves to the profession’s future performance. A theme address by futurist Leon C. Martel of the Hudson Institute portrayed a future not quite so grim as predicted by Malthus. Although he did not rule out cataclysm caused by political rather than purely economic factors, Martel seemed to believe that technological solutions were likely to pull us through the next few decades. A second theme address, by editor-educator Irving Kristol of New York, warned of threats within professions themselves: “bureaucratization,” an identity crisis pitting public interest against commercial concerns; and rebellion against the “authority” on which professions are based.

Architectural patron J. Irwin Miller of Columbus, In (where many of the convention tours wound up) delivered the third theme address. Miller stressed the importance of examining the process of architecture and asserted that the architect has just two true clients: the users of the buildings and the architect’s own critical self. The contractual client was relegated to a secondary position, along with the criticism of peers, jurors, and writers. Told that they were, in fact, their own best critics, architects present responded with applause.

As fourth theme speaker, Gerald McCue, FAIA, newly advanced to position of dean at the Harvard Graduate School of Design, saw the design of the future environment as responding to intensifying struggles among interest groups. One weakness of the profession in this situation, he pointed out, is that it attracts people who would prefer to isolate themselves from social dialogue and make “something nice.” Not surprisingly, he saw the education of architects—including continuing education—as central to their performance, but said that the present system diverts the attention of professionals toward architectural documents, rather than architecture itself, and leads them to make too many intuitive, ad hoc decisions where firm factual bases exist.

Energy Secretary speaks for BEPS

AIA officers were very pleased to have among the speakers U.S. Dept. of Energy Secretary Charles W. Duncan, Jr. Members of the cabinet have not frequented these events, much less found agreement with AIA positions. In this case, AIA is supporting a Department of Energy proposal, for the Building Energy Performance Standards (BEPS), but it was reassuring, considering the threat to the adoption of these standards by an uncomprehending Congress, to hear the Secretary reiterate support of his own department’s strategy. Duncan can expressed the feeling of AIA members who understand the issues by saying that “energy conservation is the cheapest environmentally safe way of getting energy,” and that energy savings in buildings should be accomplished “by design, not by decree, not to meet, by any satisfactory means, a predetermined standard.

Seminars

Again this year, convention planners intelligently organized one long seminar around this year’s Honor Award winners (PIA, May 1980, p. 34). Explanations by four winning architects—Paul Kennon of CRS, Joan Good, George Notter, and Frank Gehry—were remarkably articulate and convincing and comments by jurors present were revealing, though the process of selection was not really probed.

Another seminar, on neighborhood renewal, drew on local spokesmen for enlightening commentaries on Cincinnati’s exemplary community rehabilitation areas. Carl Westmoreland, representing the Mt. Auburn Good Housing Foundation, eloquently discussed the pride of minority residents who participate in the rejuvenation of their own historical environment. Developer Neil Borts spoke simply and directly about the more conventional process of inner city renewal that has made the once shabby Mt. Adams area a charming haven for upwardly mobile business and professional people. While Westmoreland presented an alternative to “social displacement” of minorities, he showed no hostility toward efforts such as those of Borts. Preservation of the fabric, by any means, he believes, is preferable to losing it: “The ultimate displacement is a weedy lot.”

Uchii wins Reynolds Award

The K.S. Reynolds Memorial Award for distinguished architecture using aluminum went to Shozo Uchii of Tokyo for the Treasury of the Minobusan Kuonji Temple. The design uses triple-layered cast aluminum insulating panels finished with a pine-smoke patina, to preserve the temple’s treasures of cultural artifacts.

The annual Reynolds Aluminum prize for architectural students went to J. Rodger Critz of the University of Arkansas, for the design of a solar water panel.

[News report continued on page 29]
Because various grades of lumber were used in the MacArthur Terrace Project, the exterior finish had to meet two very important criteria. First, a variety of colors were needed to make the overall apartment complex aesthetically pleasing. At the same time, the finish had to be economical in terms of both initial application and long-term maintenance.

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unar, the better

The almost gets the impression thatobby Cadwallader, chairman of Sunar, as worked hard to find odd spaces for Michael Graves to design as showrooms (A, Sept. 1979, p. 148). Houston is the test addition to the series, and its l-shaped space wrapping around the \tvice core of the pace Tower has con nued this pattern of challenges. It also provided the first real opportunity for Graves to develop spatial variation in

dramatic passage (above) becomes a loggia above, right) around major spaces. \pitals (right) are also sconces for lighting of different intensities.

ull three dimensions. While the visual age is familiar, that of the Houston unar showroom has been toned down rom the "gold tipped cigarettes" of Chicago to a more unified vocabulary.

Houston is the first of the series to offer potential largeness of space, with a main room over 90 ft in length. Michael Graves has come, in his recent architec ture, to measure space through articulated volumes, and he felt that while unar's main line of furniture is currently office systems, the line might also become in part residential. The architectural problem focused on accommodating a variety of scales. Graves's solution combined the development of clearly defined volumes, composed in a series of boundary conditions, with three-dimensional surface treatments allowing for multiple readings and re -ombinations of the elements.

The primary volumes are cubic, de fined by groupings of columns and vocative of atriums. These in turn became implicitly sources of light, and they are explicitly designed as such. Their square plans imply a centralized configuration, which allows their reading as discrete volumes clearly marked by a major grouping of 30-in.-diameter columns at the corners of each square. But the porosity of the minor order of

[News report continued on page 32]
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Color is one of the most obvious aspects of the Sunar showrooms, and its use here combines purely formal properties with subtle meanings. There are metaphors, such as the green floor and pale blue ceilings, as well as formal qualities, such as a darker hue stabilizing the base, evoking a wainscot and implying a physical substance that has columns both sitting on a plinth and emerging from a fragmented wall.

Does it work as a showroom? The scale of the various rooms exhibits fully the variable ceiling heights, allowing a comfortable fit between purpose and space. The large main space, because of its multiple visual readings, reasonably accommodates individual pieces, groupings, and the Sunar systems such as PAS and Race. But ultimately, the Houston showroom addresses a larger set of issues, those concerned with a design discourse and the development of architecture as a three-dimensional discipline. [Peter C. Papademetriou]

The master jury that will eventually select the projects to be honored in December includes Titus Burckhardt, Swiss philosopher; Sherban Canta-cuzino, architect and secretary of the Royal Institute of British Architects; Giancarlo de Carlo, Italian architect; Mahbub ul Haq, director of Policy Planning and Program Development for the World Bank; Muzharul Islam, architect and president of the Institute of Architects, Bangladesh; Aptullah Kuran, professor of humanities and chairman of the department at Bogazici University, Istanbul; Mona A. Serageldin, Egyptian architect practicing in the U.S.; and Kenzo Tange, Japanese architect and Professor Emeritus at Tokyo University.

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News report continued from page 32

buildings more appropriate for the Islamic world of tomorrow.” As the leader of the sector of 15 million Ismailis who live throughout the Muslim world, the Aga Khan is particularly well suited for the role of focusing attention on such matters within the entire Islamic Community of 30 countries that stretch from Morocco to Indonesia.

The first two days of the seminar were conducted with considerable brilliance and wit by King Hussein’s robust brother Prince Hassan. Because the conference dealt with public buildings and spaces and included as part of its program an exhibition of some universities planned for various parts of Islam, much of the early discussion concentrated on the design for such facilities. Nadar Ardalan noted that all of the universities shown were of the campus master-plan type and were too removed and detached from places of activity. He wondered why they had to be that way, and why they could not be incorporated into existing cities to become a part of them and to share resources with their communities. Walter Netsch responded that instant campuses are the result of growing populations that need and want instant education. “You can’t,” he said, “put 20,000 people into an existing fabric without great interruption to something that took a long time to grow.”

He noted further that some of the U.S. universities were not in cities originally, but that cities grew around them as the population began to grow.

Arthur Erickson took the conversation to another level with his remark that the root problem was deeper than architecture or planning. “The problem in the Middle East,” he said, “is not that they have accepted design of the Western manner when we have not defined what it is and consequently cannot even do it ourselves.” Certain guidelines began to emerge, however, that seem to be typical of, if not totally exclusive to Islamic architecture. It is first, and in contrast to that typical of the West, an architecture that views buildings as containers of space rather than as objects in space. The Islamic building, it was also agreed, concentrates more on the notion of privacy, especially through the use of interior courtyard spaces, simplicity, modesty, and respect for human scale. The communities, especially the older ones, are characterized by a rich, tightly-woven fabric where life and all of its activities have been intimately bound together into a tapestry that makes little obvious distinction between home, marketplace, school, and place of business.

It is the nature of these communities and the type of life they sustain that the Muslim world, whose nations are now seen as “emerging” or “developing” and whose populations are exploding, is in fear of losing. Yet as it enters the modern world, it will suffer the losses of quality as surely as the industrialized and developed nations already have. All one needed to do in Amman was to look out the hotel room window to see this already happening. The town has mushroomed in recent years, especially the older ones, are characterized by a rich, tightly-woven fabric where life and all of its activities have been intimately bound together into a tapestry that makes little obvious distinction between home, marketplace, school, and place of business.

In Amman today, only wide, new motorways connect otherwise unrelated tall new buildings. Housing shortage exist while building activity extends as far as the eye can see. Amman is no unique in this pattern, however, nor is it unique in repeating many of the mistakes of the West. But does this mean that everything from the West should be rejected, including its science and technology? Not necessarily, and at least not insofar as the Aga Khan awards are concerned. In explaining the award program, it is spelled out clearly that “Consideration will be given particularly to those projects which use local initiatives and resources creatively, which meet both the functional and cultural needs..."
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needs of their users and may be emulated elsewhere in the Muslim world." It is also noted, however, that "Projects will be chosen for their potential as catalysts in the evolution of a new cultural sensitivity, one which combines a heightened awareness of the continuing vitality of Muslim cultures with a renewed determination to respond to the challenge of modern societies and technology." What the judges for the Aga Khan Award will determine such projects to be will not be known until December. [DM]  

City Segments show Walker Art Center  
The gritty real and the cerebral ideal both found their way into the exhibit of drawings devoted to urban visions, on display at Minneapolis’ Walker Art Center April 19-June 15. Mildred Friedman was the curator of the show, which has been synopsized nicely in the 113-114 issue of Design Quarterly.  

Like many of the current Utopian visions, some of the proposals are too diffuse and fragmentary, others too glitteringly seductive to present an urban design premise convincingly. Some of the projects retreat from the real world rather than attempt to transform it. Other visions are going to be built, for better or for worse, and the drawings become a way of conferring an aura of art on these schemes. Nevertheless, the range of arrestingly handsome drawings sufficiently catches the observer’s attention, raising questions about the gap between the mundane world outside and the quite different milieus within the Walker.  

Participating in the show were a diverse range of architects including Diana Agrest and Garth Rockcastle (who each wrote introductions for the D.Q. column), along with Mario Gandini, Cesar Pelli, Romaldo Giurgola, Hardy Holzman Pfeiffer, Hodne, Stageberg, Helmut Jahn, and Emilie Ambasz.  

A symposium commemorating the opening of the show investigated problems of designing city segments and problems of criticizing them. Participants included architects represented in the exhibition, Tom Beeby, Robert A.M. Stern, George Baird, Daniel Solomon, and Steven Peterson. Also participating were critics Paul Gapp of the Chicago Tribune; Suzanne Stephens, P.A.; John Pastier, freelance; Kenneth Frampton, Columbia University; and Charles Zucker of the NEA.  

The symposium, like the show, has some interesting and not so interesting presentations, some clear and not so clear ideas, but it, too, offered a worthwhile type of exploration. [SS]  

Metropolitan Museum of Art opens two wings  
In March, New York’s Metropolitan Museum opened its André Meyer Galleries for 19th-Century European paintings and sculpture. In June, the Museum opened the first phase of its American wing, containing its fine collection of American paintings, sculpture, and decorative arts. Both additions were designed by the architects Kevin Roche/John Dinkeloo & Associates, an are part of a master plan conceived for them and approved in 1971.  

Both wings are based, with modifications, upon an approach which the architects devised for the Sackler wing, which opened in 1978 (P/A, May 1971, p. 98). With this approach, space is contained within great shedlike glass and steel enclosures, and then fittings, independent of this outer shell, adapt the space to the specific programmatic needs.  

In the André Meyer gallery, a certain richness was desired, in contrast to the glassy enclosure, so screen walls were covered with a silklke fabric and were trimmed with flat oak moldings. The glass roof flows freely above the screen walls, and incorporates a translucent ceiling which ingeniously allows natural light, supplemented by artificial light, to be introduced. Here, the concept of enclosing versus interior would work we if the space were not so choked: the screen walls are too high to allow a clear view of the trees and skyline beyond, which opened in 1978 (P/A, May 1971, p. 98). With this approach, space is contained within great shedlike glass and steel enclosures, and then fittings, independent of this outer shell, adapt the space to the specific programmatic needs.  

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Diana Agrest and Garth Rockcastle (who each wrote introductions for the D.Q. column), along with Mario Gandini, Cesar Pelli, Romaldo Giurgola, Hardy Holzman Pfeiffer, Hodne, Stageberg, Helmut Jahn, and Emilie Ambasz. A symposium commemorating the opening of the show investigated problems of designing city segments and problems of criticizing them. Participants included architects represented in the exhibition, Tom Beeby, Robert A.M. Stern, George Baird, Daniel Solomon, and Steven Peterson. Also participating were critics Paul Gapp of the Chicago Tribune; Suzanne Stephens, P.A.; John Pastier, freelance; Kenneth Frampton, Columbia University; and Charles Zucker of the NEA. The symposium, like the show, has some interesting and not so interesting presentations, some clear and not so clear ideas, but it, too, offered a worthwhile type of exploration. [SS]
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*Based on typical (as of March 25, 1980) fuel costs of $0.87/gallon, annual estimated savings today are $15,225.00. (Fuel savings estimates and U-value measurements by Cappuccilli-Bell.)

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The new American Wing courtyard.

provides moments of great pleasure: the courtyard is glorious with pale limestone walls, gleaming brass handrails, and a great glass roof and wall which draw in dark views and the shifting skies above. On the other hand, the detailing in this court is insensitive, as is the relationship of the architecture to the works of art themselves. Great masses of limestone are used indiscriminately: one great wall of limestone is moved heavily forward so that a stained-glass Tiffany landscape can be backlit; another such wall is nearly flush with the reerected façade of the 1822 Assay Building, providing no contrast; and a third great limestone wall crushes the stairway from Louis Sullivan's Stock Exchange Building into a space too narrow for it.

In the painting galleries of this wing, a ceiling system incorporating natural and artificial lighting is used, similar to that in the Meyer Wing, and the effect is very fine.

Unfortunately, the attempt to contain a complicated program within a simple shell results in some ill-proportioned spaces: the halls surrounding the original American wing are long and narrow, doing a disservice to the furniture displayed there, and to the period rooms which feel crushed between them.

Roche/Dinkeloo were afforded an awesome opportunity in the commission to design these important new wings. Their response, while glorious in certain points, was, in general, quite ordinary.

[Hester Awards Program: ‘Interiors of the Year’]

The S.M. Hexter Company, manufacturers of fabrics, wallcoverings, floorcoverings, furniture, and decorative screens, announced the winners of its 22nd Annual Awards Program for the “Interiors of the Year” at a luncheon held in April in the Regency Hotel, New York. Two First Awards of $25,000 each were given, one in the residential category and one for nonresidential work; honorable mentions were also presented. The first prize for a residential interior went to Scott Kurland and James Silvester, of the Kurland Design Group, New York, for their design of a living/dining area of a New York apartment. Juan Montoya of New York received honorable mention in the residential category. For nonresidential interiors, Christopher Carr and Daniel

[News report continued on page 50]
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Fried, of Carr & Associates, Los Angeles, won first prize for their design of Le Sportsac luggage shop in L.A., with honorable mention going to James Fitzgerald, AIA, of Space Design International, Cincinnati, and Rodney Perry, ASID, and Dale Plummer, ASID, of Raleigh, NC.

Winners selected in student competition

Six winners were chosen in May from among the record-breaking number of student submissions, over 2200, in this year's Design & Energy competition sponsored by the Association of Collegiate Schools of Architecture. Reflecting, perhaps, the "grim professionalism" that some observers have sensed recently on college campuses, the student efforts showed little sign of the polemics that have marked the work of their predecessors, according to the jurors. The latter included Fred Dubin, PE, Richard Stein, FAIA, Paul Goldberger, New York Times critic, and Robert Fredericks of New York International House.

The competition was supported by the Department of Energy and the Brick Institute of America, as well as the ACSA, all of whom provided the students with relevant technical literature, and it stressed passive design and creative use of brick masonry. Entries were solicited in two categories: one, solutions for a mixed-use international student residence; the other, solutions for any medium-scale architectural project other than a single-family residence.

In Category I, Robert Nalls of the University of Pennsylvania won first award for the design of an International House for Philadelphia. The scheme made the most of opportunities for natural ventilation and passive solar gain on a constrained site, and according to juror Richard Stein, "responded to basic questions of energy performance without distorting fundamental architectural relationships." Second place in this category went to James Rasche of the University of Minnesota, and third place to Bill Cheeseman of Oklahoma State University.

In Category II, Scott Barton of Rensselaer Polytechnic Institute took first prize, for a Visual Arts Center for Skidmore College. This selection was controversial because, said juror Stein, "In the search for symbolic and energy-expressive form, solutions that respond to the other concerns of design are sacrificed." Second place in this category was awarded to Robert Vanney, University of Minnesota, and third place went to Allen Brown, Oklahoma State University. Honorable mentions were extended to students from Cornell, Michigan, Illinois (Urbana), and the New Jersey Institute of Technology. All winners received cash awards.

Baymiller appointed correspondent

Progressive Architecture is pleased to announce the appointment of Joann Baymiller as correspondent from St. Paul, Mn. Ms. Baymiller has a degree in Sociology/Anthropology from Washington University, and has done graduate work in architecture at the University of Minnesota. An architecture and dance critic, she has contributed to local and national publications. She has also been active for a number of years in the field of preservation. In 1975, she organized a national "Back to the City" conference for Old Towns Restoration. For Minnesota Landmarks, she coordinated a four-day citywide arts festival. In 1975 and 1977 she served on the Board of Directors of Old Town Restoration, and the preservation planning program for St. Paul's Historic Hill District, and she is the former editor of the Grand Gazette newspaper. She is currently writing a book, sponsored by the National Trust for Historic Preservation, about preservation in the Midwest and is coprincipal in Baymiller/Otis, an enthusiastic new writing and publicity agency.

Joseph Zalewski, AIA
1910-1980

A principal of the Cambridge firm of Sert, Jackson & Associates and a former faculty member of the Harvard Graduate School of Design, Joseph Zalewski...
Mr. Zalewski was born in Poland and studied architecture at the Polytechnic Institute of Warsaw. During the war, he escaped to France, where he worked in the offices of Le Corbusier and Paul Nelson. In 1951, Mr. Zalewski came to the United States, joining the New York firm of Town Planning Associates, with José Luis Sert and Paul Lester Wiener. He was appointed to the faculty of Harvard in 1953, and in 1958 helped found the architecture and planning office of Sert, Jackson & Associates in Cambridge. As a principal, he participated in buildings for Harvard, Boston University, the University of Guelph (Ontario), and Roosevelt Island. He also worked, with Sert, on plans for the Fondation Maeght in France, the Miró Museum in Barcelona, and the U.S. Embassy complex in Baghdad. He is survived by two sons.

Personalities

Charles M. Correa, architect in Bombay, India, was one of five honorary degree recipients at University of Michigan's spring commencement. Correa, who earned his bachelor degree in architecture at Michigan in 1953 and did graduate work at MIT, opened his professional office in Bombay in 1958. He has designed the Gandhi Memorial Museum, as well as buildings for industry, education, commerce, and government, and is best known for his contributions in housing for the poor in tropical countries.

Henry N. Cobb, a founding partner in the New York firm of I.M. Pei & Partners, has been appointed chairman of the Architecture Department at Harvard University's Graduate School of Design, effective July 1, 1980. Cobb received his Master's degree in Architecture from Harvard in 1949, and began his professional career with the Boston firm of Hugh Stubbins. As a partner in the Pei firm, he has played a major role in city planning projects, including the urban renewal of Boston's Government Center in 1961, and Los Angeles' Bunker Hill in 1963. He received a National AIA Honor Award for Boston's John Hancock Tower in 1977.

Calendar

Competitions


Registration deadline Sept. 1. Helios Tension Products of Redwood City, Ca, is sponsoring a competition for the design of a tension membrane outdoor theater. The deadline for submissions is Oct. 15, 1980. Information is available from Helios, 1602 Tacoma Way, Redwood City, Ca 94063. Tel. (415) 364-1770.

[News report continued on page 52]
1 Bethel Comprehensive Health Center, Bethel, Ak. Architects: Caudill Rowlett Scott, Houston. This 95,000-sq-ft, 50-bed hospital will provide a technologically advanced medical facility in a remote area, while responding to a unique set of environmental restraints. The Center will have complete diagnostic and treatment areas, support facilities, and operations for community and state health care organizations. A geo-stationary satellite over Hawaii will make remote diagnosis possible by linking the hospital to a tertiary health care center in Fairbanks. The design for the one-story building arranges expandable departments around a central spine which contains waiting rooms and lobbies. As the construction period in the area is short, and as barge service is limited, the structure will consist of lightweight prefabricated elements to be installed by local labor. Long steel piles will provide a stable base in the permafrost. To prevent the permafrost from melting, these piles will extract heat from the ground by convection, and the building will be elevated to permit free air movement across the site. Taking its cue from the indigenous igloo, the entrance will be through a tunnel at the south side. Small, triple-glazed strip windows will minimize glare and reduce heat loss. The building will be sheathed in smooth, aluminum-clad panels.

2 Alcan World Headquarters, Montreal, Que. Architects: Arcop Associates, Montreal. Elegant mansions and fine terraced housing have graced Montreal's Sherbrooke Street, but the last two decades have seen corpora- tion long spans steel joist floor construction and is illuminated to activate the street from the roof, providing a vertical organizing element and a horizontal link from one street corner to the opposite street edge. On all floors there is an equal mix of department store area and boutique-like shops. The major portion of the building has a conventional long span steel joist floor construction and the vaulted gallery is built of precast quarter-circle vault sections and piers.

3 Harlem Shopping Mall, New York, NY. Architects: James Stewart Polshek & Partners Bond Ryder Associates, New York. Harlem Mall with 185,000 sq ft of retail space distributes over four levels, announces itself brightly to 125th St., a major retail corridor. At ground level, glass block defines the building line and is illuminated to activate the street from above. A Kolyschek marquee panel cloaks the building, turning the corner with curve, and raising and lowering at the bottom edge to define major openings. Inside, vaulted gallery rises from subway concourse level, through the four shopping levels, to the roof, providing a vertical organizing element and a horizontal link from one street corner to the opposite street edge. Of all floors there is an equal mix of department store area and boutique-like shops. The major portion of the building has a conventional long span steel joist floor construction and the vaulted gallery is built of precast quarter-circle vault sections and piers.

4 Mercantile Bank Building, San Antonio, TX. Architects: Skidmore, Owings & Merrill Houston. San Antonio is now acquiring its first SOM-designed building, a handsome 217,000-sq-ft, six-story structure clad in silver reflective glass and pearl gray granite. The building is planned around two large atriums, one three stories high and one which rises the full six stories, both topped by tinted glass skylights. The main entry, on the northwest corner of the building, is through a three-story glass-enclosed space which houses the public banking facilities of the Mercantile Bank. This space is detailed with 40-ft-high pipe trusses supporting a clearly defined wall. The landscaping of the 7¼-acre site includes a large semicircular pool with a fountain facing the visitors' parking area.

5 Capitol Commons, Sacramento, CA. Architects: Stollier/Partners, Berkeley. The Capitol Area Development Authority has selected a design featuring solar heating for development on a leased block along the Capitol Mall in Downtown Sacramento. Capitol Commons will consist of 92 condominium units, 10,000 sq ft of commercial space, a variety of outdoor spaces, community gardens, and underground parking. The buildings range from two-story housing units and commercial spaces on the south to a six-story apartment building on the north, relating in height to the surrounding neighborhood. All dwelling units employ passive solar heating (with back-up heating and cooling systems), through-ventilation, solar water heating, and massive construction to hold energy costs to an estimated $25 per year, per unit for space conditioning. There is also provision made for composting and for recycling of wastes. Each dwelling unit has a private balcony or a patio, and public spaces include a plaza and a large green "Commons." The majority of the units are accessible to disabled people, and over a third can be occupied by those in wheelchairs. Completion of the $12-million project is expected in late 1981.
Giants were at work in Chicago; Sullivan, Root, Adler, Perkins, Burnham, the young Wright. And their buildings serve well the society of now.

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The small building artistically considered

This month, we have again gathered a collection of small buildings that the P/A editors consider outstanding responses to programs that were basically not very promising. They are not follies or other little experiments commissioned by high-minded patrons, but are designed for hard-headed purposes to meet stringent budgets. They represent the kind of commissions within the reach of just about any architectural practice.

In reviewing the five small works we have chosen for publication here, it is tempting to consider just what principal points each one makes—without getting bogged down in a typological discourse. Two of the works shown, for instance, are actually only additions to existing structures; one of these is praiseworthy for not being too assertive, the other for giving an assertive focal point to a complex many times its size. Of the three whole new buildings represented here, one is exceptional for the very soft-spoken way it mediates among diverse existing buildings; another introduces its vigorous individuality—albeit at modest scale—to a town setting; the third confronts only woods and water. (We’ll let you identify which building fits which of these oversimplified categories.)

Among all the buildings presented here, only one represents a thorough integration of energy considerations into design, a fact that underscores the gulf still to be bridged between considerations of form, plan, detail, etc., and those of energy. Much of the admirable architecture being completed today—at any scale—was designed when energy concerns were hovering around the threshold of awareness for most practitioners. In the case of this one intriguing example of energy-conscious design, we have included an Energy Analysis as part of our on-going series (P/A, April 1980, p. 101).

Buildings at this scale are never a bonanza for the architects, but often an opportunity to demonstrate design skill and practicality, as a basis for larger commissions. The advantage they often hold out, compared to those larger jobs, is the opportunity to develop a design that expresses the architect’s convictions with a special clarity. See what you think of these efforts. [John Morris Dixon]
An addition to a sewage treatment plant is definitely not one of your glamour commissions, but the young Houston firm of Taft Architects has shown that even extremely modest jobs can contain multiple architectural ideas.

The Quail Valley sewage treatment plant, the largest oxygenated facility in Texas, is in the middle of a subdivision, in plain view of the public golf course that threads through its center. After completion of the facility in 1978, the clients found that a control building was needed for plant security, to provide an office for the supervisor, and to give workers a small lunchroom/lounge for 24-hour use. A better image to the community was also desired, as well as a clearly understood entry. Given the 1000-sq-ft programmed size, the decision was made to design the project as an extension to an existing control lab building, orienting the facility toward the main views from the golf course, and terminating the access route.

Rather than indulge in high-tech images that might unduly celebrate the technology of the plant, the architects opted for a set of references that is more banal, in the root sense of "common to all"—readily and consistently understood. A bare-bones budget also encouraged such an approach.

The images chosen were those of the countless 19th- and early 20th-Century "civic" utility buildings built all over America. The oversized globe lights flanking the entry reinforce recollections of municipal buildings, as does a semicircular tile identification over the door transom (designed and crafted by the architects).

Essentially, the building is a box with a façade applied to it, a point underscored by the projection of the frontal plane beyond the corners of the box. The symmetry and thinness of this façade produce a scale larger than its dimensions. The false-front image is furthered by the conjunction of two exterior surface materials, a dark, reddish-brown tile and a beige stucco (which coincidentally pick up the colors of the large adjacent metal buildings). The tile grid does not "fit" the pattern of stucco laid over it, thus establishing the independence of the two patterns, which seem to be in overlapping planes. The ambiguous stucco window surrounds further this reading of overlap.

By contrast, the entrance is volumetric, the tile surface appearing to pull through the stucco plane. The stepped recession of arches above the door and the stairs below combine to enlarge its scale.

This volumetric treatment is picked up in the interior, essentially a large space divided by a central core, which is laid out in an echelon plan, keyed into a series of lateral coffers. The steps in the core plan are the basis in turn of a checkerboard floor tile pattern.

The sets of stepping windows along both sidewalls imply that the volume of the interior, once the frontal plane is penetrated, should be read as a series of successive spatial "layers" emphasized by the ceiling beam coffers. But the diagonal progression created by the plan of the core at the entry disrupts an axial, frontal sequence. The doors required for office privacy also make it hard to read the core as a dense element inserted in the space. It may be that, despite their geometrical affinity, the concept of positive-negative interior volume and the idea of layering work somewhat against each other—or that the project is too small physically to contain both.

Better perhaps to view modest projects with too many ideas optimistically, as having the potential for creation of livable, specific environments for their users. That heavy conceptual ideas can find their place in an external image which is meaningful and understood is a goal to be sought in any design. Perhaps as important is that all these intentions were attempted in a project which can in slightly below budget, an enviable case of having your cake and eating it too.
Project: Municipal Control Building, Quail Valley Utility District, Missouri City, Texas.

Architects: Taft Architects, Houston (John J. Casbarian, Jimmy Samuels, Robert H. Mame, partners; Scott Waugh, project assistant; Jeffrey Averill, core Boucher, support team; See Rosner, ceramic tile execution; Candace Timme, interior furnishings).

Use: attached to existing building of Quail Valley Waste Treatment Plant.

Program: 1000 sq ft for office and lunchroom.

Structure: wood frame on concrete slab.

Major materials: stucco, quarry tiles, gypsum board, aluminum windows.

Mechanical system: electric lighting system.

Consultants: R. George Cunningham Associates, structural.

General contractor: Chandler Binson, Huisache Construction Co.

Costs: $47,000 (1979); $52 per sq ft.

Photos: by architects, except as noted.

The façade (color photo) recalls in its composition the municipal pumping stations of City Beautiful and WPA vintage. The slope of its "pediment," however, is close to that of nearby tract house roofs. Seen from inside (left), side windows fit between roof trusses; windows in front wall reflect its formal composition.
Within a stone’s throw of New York City, a nature center in an idyllic setting brings the public together with the sun and with the environment.

Nearly symmetrical about the main path, the front entry facade has relatively few openings. On the opposite, pond-facing side, the angled wall catches the south sun with skylights, windows, and vertical active solar collectors.

Along the path

In keeping with its purpose, the building housing the Flat Rock Brook Center for Environmental Studies is an uncomplicated and responsible solution to a worthwhile problem. As is the aim of similar facilities across the country, the Center is to provide a reintroduction of the public to the environment.

It is located at the abrupt entrance to 75 acres of land adjacent to fairly standard residential blocks in a pleasant northern New Jersey town. Also similar to other sites in the “Northeast Corridor,” these surroundings escape the stereotyped view that nowhere is there any respite from cars, concrete, or people here. Abutting an abandoned quarry, the Nature Center enjoys an almost unreal serenity at the southern edge of New Jersey’s wooded Palisades.

While there are paths throughout the Center grounds, the main path bisects the building and becomes part of the program. As a “place” along the path, the facility offers a 10-ft-wide central hall which can be opened both at the ends and along its length, for activities inside to intermingle with the path. Architects Ballou-Levy-Fellgraff and the designers/environmental consultants, Total Environmental Action, sought maximum flexibility and a responsive building in an energy sense, as well. The designer and project manager, Daniel Scully of TEA, notes that the Center is also to perform in the role of a teaching tool, demonstrating simple solar concepts applicable on a broad basis.

Meeting room and workshop areas are located along the south-facing elevation, on opposite sides of the center hall. The main orientation of the second-floor director’s apartment is also on the same wall, although direct heat gain through windows and skylights is the extent of solar contribution—there—there is no heat storage. Instructional areas are heated through both active and passive solar collection, floor slabs in both major spaces absorbing heat for rereadation. Between the meeting room and the outdoors is a greenhouse, which opens or closes through sliding doors; insulating shutters can be rolled down outside to hold heat in the space or repel it. Also in the greenhouse space are 12" x 8' vertical, water-filled plastic tubes for further heat collection.

Windows in the workshop are protected from summer sun by a shading trellis, and there also are sliding shutters. The active components are wall-, not roof-mounted, hot air collectors which were site fabricated. Ducts connect the panels to a rockbed heat storage compartment between the workshop and the offices. The heat can alternatively be directed to the staff offices. Backing up the solar heating system is a gas-fired water heater unit.

By Scully’s predictions, the design will reduce the building’s heating requirements by about 50 percent. Direct gain calculated to contribute 11 percent in the workshop, 17 percent in the greenhouse and 6 percent in the apartment. The two active collectors are expected to produce an additional 15 percent.

The energy analysis shown on page does not consider the active system, figures shown are not comparable. The study clearly points to the insulating shutte...
as the key to the energy performance of the center. Also noted in the analysis process was the building's unique pattern of use, with instructional spaces being occupied by groups varying from large to small, different in various seasons. In addition, each major room has its own independent thermostat, making control less than predictable. The building has yet to go through a year of operation, so exact performance figures are not available. [Jim Murphy]

Data
Project: Flat Rock Brook Nature Center for Environmental Studies, Englewood, NJ.
Architects: Ballou-Levy Fellgraff; Allan Ballou partner in charge, Ed Levy production and construction administration.
Designers/environmental consultants: Total Environmental Action, Inc.; Danie Scully, designer and project manager; Harold Dietrich design draftsman; Winslow Fuller, solar engineering; Jennifer Adams, solar draftsman.
Client: Flat Rock Brook Nature Association; Maggie Ramonas, director.
Site: 75 acres, rocky, wooded abandoned quarry.
Program: meeting and work space for environmental studies, including assembly room for 100 persons and director's apartment.
Structural system: 2" x 6' wood frame on concrete foundation and slab.
Major materials: cedar siding, gypsum board interior walls, insulating shutters, solar storage tubes.
Consultants: structural, Otokar Van Bradsky; I. Shiffman.
General contractor: Keljea Corporation.
Costs: $62/sq ft.
Photography: Joseph Moli tor.

Ducts convey heated air from the collectors to a rock storage area behind the workroom. Although not a greenhouse in the normal sense, the buffer space for the meeting room contains water-filled tubes (left, lower center) which can collect and store heat.
The modeling of thermostat controls is greenhouse unconditioned. Hourly zoning with BLAST is very similar to the temperature floating in all spaces. Thermal load analysis includes the use of passive performance (temperature fluctuation chart), which assumes free temperature floating in all spaces.

The models differ in concepts of analysis, ability to model specific design features, and in the type of generated information (P/A April 1980, p. 100). The charts show the scope of each analysis and summaries of resulting information typical of each model. The analyses focus on the "design day" approach since TEANET and BLAST/PASSIVE cannot simulate annual performance. The performance of mechanical systems (including active solar) is not considered. Cooling load in the building is ignored because there is no mechanical cooling.

Weather conditions simulated on "design day" analyses correspond to a typical winter day (Jan. 15). Insolation data for that day are calculated independently by DOE-2 and BLAST. Both calculator programs were run on a Hewlett-Packard HP-67. DOE-2 and BLAST use a TMY weather tape for New York for annual analysis.

DOE-2 analysis was prepared using the DOE-2.1 version and its custom weighting factors option to model the thermal mass of the building, residential infiltration, and conductance schedules to model the operation of thermal shutters. Some of the effects of the use of these options are clearly visible in the analysis of hourly loads. For example, solar gain at night is the delayed component of gain through windows, and the distinct changes in conductance and infiltration losses at 9 a.m. and 5 p.m. result from the operation of shutters. The solar gain report in the hourly thermal load chart does not include the gain in the greenhouse because the greenhouse is unconditioned. Hourly thermal load analysis includes the use of thermostats in all conditioned spaces. The modeling of thermostat controls is not included in the DOE-2 analysis of passive performance (temperature fluctuation chart), which assumes free temperature floating in all spaces.

Analysis with BLAST was prepared using BLAST/MRT, version updated at the Lawrence Berkeley Laboratory (LBL). The Nature Center's thermal zoning with BLAST is very similar to the one used with DOE-2, and the same assumptions are made for hourly load and passive analyses respectively. High losses predicted by BLAST at night result from the lack of simulation of the use of shutters (which cannot be modeled by BLAST). Changes in load reported by BLAST at 9 a.m., 6 p.m., and 10 p.m. result from changing thermostat settings.

The analysis with TEANET assumes auxiliary heat supply in the workroom when the temperature in that space drops below 68 F. The simulation required two separate runs: one for the greenhouse and one for the workroom. Analysis with LBL/PASSIVE abstracts the building into six different surfaces and no auxiliary heat.

The annual heating load simulated with DOE-2 is 9274 Btu/sq ft; with BLAST it is 17,662 Btu/sq ft. The difference partially results from the difference in concepts of analysis in DOE-2 and in BLAST, and from the omission of simulation of thermal shutters by BLAST.

There is no absolute agreement among the four models chosen, but the trends they show are similar. The use of a model will help to understand the forces which shape the building's energy performance. The modeling of a building with TEANET and LBL/PASSIVE is abstract without specific consideration of geometry. Most subtleties of architectural design are thus lost. DOE-2 and BLAST model a building's geometry and allow the consideration of much more detail; they also generate much more useful information about the analyzed building.

Simulations with BLAST were done with the help of Ron Kammerud and Brandt Andressen of LBL. Modeling with LBL/PASSIVE was done under the supervision of the program's authors: David Goldstein and Robert Clear, of LBL. TEANET analysis closely followed the analysis by Winslow Fuller of TEA.
Contextual values guided the design of a building with five classrooms, art, music spaces, and student lounge for a prep school addition by architects Keyes Condon & Florance.
This rubblestone building for the St. Albans campus in Washington appeals because of the way it adjusts to its natural and architectural context. Its configuration of shifted shed roofs and staggered masses and its heavy quarry stone walls all convincingly relate both to the style and the siting of the older Collegiate Gothic school nearby. Parts of the quadrangular campus, adjacent to the National Cathedral, date to 1907. Yet the architectural ensemble has been disfigured in recent years by the introduction of some faintly Gothicized "Modern" architecture.

As this new mixed-use building demonstrates, the nature of the material, the treatment of masonry load-bearing walls as massive elements, even the use of dark mortar, make the difference. Furthermore, the insertion of the four-floor structure into the steep slope diminishes the bulk. The staggered masses echo the vertical character of the older buildings; the angled southwest corner defers to their siting.

Inside, straightforward detailing and reliance on natural materials create a bland but comfortable ambiance. The expanses of interior glazing dramatically open up space, light, and views, with a major focus the double-height windows in the three-story lounge. If the relationship between the Modern plan and the massive "pre-Modern" wall is unresolved anywhere, however, it is on this south wall exterior: proportions of the openings to the wall do not create an effective solid/void balance.

Across the street, the architects also tried to fit a new gym to the site and make it blend with the old Gothic brick activities building next door. Unfortunately, it didn't quite come off. Despite the choice of brick, the sloping tere metal roof, the belt course and coping in precast concrete, the brick walls remain too strongly horizontal, uniform, and monolithic. [Suzanne Stephens]
When the New York town of Olean decided to replace a small, secondary fire station with a new one that would become its main facility, it called upon architect Werner Seligmann. His work was already known to the town through some earlier and admired New York State UDC (Urban Development Corporation) housing. What the town got in its new (and to some, misguided) venture, however, was a building that is reviled by its users in almost exact reverse proportion to its (to some, undeniable) formal distinction and elegance. The building raises important questions about its fit, as far as the users are concerned, its function, and equally important in this case, its symbolic message. Before going into such matters, however, a straightforward and, it is hoped, unbiased description of the building is in order.

The site
The 8200-sq-ft structure occupies a site at one end of the town’s main street in an area where most of the older buildings have been removed and replaced with suburban-type shopping malls. The site was not chosen by the architect, and it is, according to him, really too small for the activities the building was expected to house, if all of them were to be accommodated on one level. As a consequence, spaces other than the garage, which is designed to hold five fire-fighting vehicles and two ambulances, are stacked in a two-story structure attached to the main “shed.” This smaller residential/office structure is trapezoidal, as it fills in the north side of a site that is splayed 15 degrees. This section is clearly articulated as a part of the building serving a function different from that of the shed.

The structure
An exposed structural steel frame with open-web joists supports a metal deck roof over the shed. Three equal bays across the front of the building extend five bays in depth. The exposed roof framing of the shed is expressed on the outside of the building through stepping back the large rolling doors, which are separated from the roof framing by glazing. In the residential/office section of light metal framing, conventional dropped ceilings are used, along with standard gypsum-board partitions. The building is clad in dark gray and white panels of a synthetic material resembling stone, along with metal sash compatible with the modules of the panels. All exterior parts of the building not panel-clad or glazed, such as the exposed structure, rolling doors, and exhaust stacks, are painted bright colors.

The building is designed to be dry-assembled as much as possible. As such, it represents a continuation of a theme Seligmann has been working on for the past several years in other buildings, such as his administration building at Willard State Hospital in Willard, NY (P/A, May 1976, p. 78).

The context
The building completely fills its site from side to side (north to south), but leaves open driveway space for the fire engines at the front and back (east and west) ends beyond the enclosure of the drive-through shed. To the north, the residential/office part of the building is scaled down in relation to the shed and is articulated as a small, white structure set before a dark gray ground. The intention of this, according to the architect is to put the fire station into a favorable relationship with a white and gray gas station that sits on the adjoining corner lot at an odd angle to the fire station. At the south end, the large apparatus room is set back from the main street at the same distance as the larger “Italianate” Knights of Columbus building, to which it is joined and with which it forms a large-scale urban ensemble facing the street.

The users
The firemen (or at least the captain and the men P/A spoke to) are quite outspoken in their attitude toward the building. They don’t like it, and it is a source of embarrassment to them. Their complaints, among others, are: 1) they were not consulted during the design; 2) some of the exterior paint faded and had to be repainted; 3) the exterior panels are streaking; 4) the two-story portion should have been done somehow a
The new fire station in Olean, NY, is decreased in scale on the north side (top) and increased on the west side to relate to the buildings around it. The rear (right) shows the same precise clarity of detailing as the other facades.
one story because it is awkward to use; 5) the building doesn't look like a fire station; and 6) they don't know why they "need all this architecture."

The architect
The architect's response to these complaints goes as follows: 1) he consulted with the fire chief who saw and had drawings throughout the design phase; 2) the faded interior paint used on the exterior (because of its particular color) should have been sealed; 3) the exterior panels should have been sealed; 4) the residential/office function would not have fit on the lot in other than a two-storied structure; and 6) — these are real problems.

The real problem
One suspects that the real problem of this building, insofar as the firemen's attitude toward it is concerned, has to do more with its image than with such physical problems as leaking, fading, or staining. While these problems are very real and to some degree exist because cost overruns precluded their correction, they should not be dismissed out of hand. They are, however, not unique for structures where the architect is trying to exist because cost overruns precluded their correction, they should not be dismissed out of hand. While one may have every sympathy for the firemen, one can also hope in time they may begin to see what they have. [David Morton]

Data
Project: Olean Central Fire Station, Olean, NY
Architects: Werner Seligmann & Associates; Bruce Coleman, job captain; Val Warke, assistant.
Site: flat, urban lot where former fire station stood; one side splayed 15 degrees.
Program: a new fire station to replace inadequate facility on site; new station to become central one for town; garage to hold five firefighting vehicles and two ambulances.
Structural system: concrete foundation and foundation walls; steel frame and open-web joists; light metal framing.
Major materials: exposed steel frame and deck, 5/8-in. inorganic mineral fiber-cement exterior panels, gypsum board, steel window frames and panels.
Mechanical system: hot-water, oil-fired boiler, unit heaters, pipe-fin radiation; incremental air-conditioning units.
Consultants: Synder-Burns Associates, structural; Galson & Galson, mechanical.
General contractor: Smith Bros.
Costs: $496,000; $60.00/sq ft, including site work, landscaping.
Inside, the same sharpness of detailing as on the outside is seen, but here through the exposed structural steel, open web joists, and metal roof deck.
A sanctuary addition to an older church respects its neighborhood and makes all who pass it feel welcome.

The problem for the Lake Shore Christian Church in Euclid, Oh, was not complicated, and one of the most admirable qualities of the solution is that it is not either. The restraint that architects William A. Blunden and Robert A. Barclay have shown in dealing with a building type that is often wrought to the point of hysteria is laudable; and this point was confirmed last year when the state AIA gave the building an honor award.

If the building's only merit were to be found in its restraint, however, that alone would not make it worthy of much attention. In designing this 3600-sq-ft addition to a preexisting building of about the same size, the architects have developed a handsome form that is responsive to more than just its main function as a secondary, 175-seat sanctuary for the congregation.

Instead of simply attaching the new form to the old, the architects devised a vestibule that serves both sanctuaries and connects them to each other. This entry space has been made into a long, narrow shape that not only connects the two parts of the church at the front, but separates them toward the rear to form a courtyard—or cloister—that is used for services and other functions in good weather.

Both the new addition and the courtyard, moreover, are at grade level, thus resolving a major access problem for the many elderly members of the congregation.

Unlike the older structure, which is a somewhat boxy form of red brick that relates to little around it, the new wood-frame, white-cedar-clad addition has been designed with a simple sloped roof to reflect a common building form found in the residential neighborhood around it.

If the new building is restrained and simple on the exterior, that same attitude gives it an air of calm and serenity in the interior. There, the all-white enclosure is accentuated only by the rust-colored carpeting and the light, natural woods of the pews and chairs. The most—in fact the only—dramatic elements in the space are the large, concave window at the northeast corner of the building and the pyramidal skylight over the east end of the building. Together, these flood the altar with natural light. The large window however, also serves a symbolic function. It exposes the altar and choir to public view and in so doing becomes a gesture of invitation. [David Morton]
new sanctuary addition to the Lake Shore Christian Church in Euclid, Oh, places the altar above) at the east end of the building under a pyramidal light monitor (below, left). The monitor and a large window at the northeast corner illuminate the altar with natural light. A new vestibule (plan) joins the old and new parts of the building.
Knoll makes its move

Knoll International is suddenly not so International Style any more and, say its new owners, the recently opened showrooms (reviewed on following pages) are only the beginning.

It was among the "don't miss" events of the New York season. Invitations—numbered and signed Robert Venturi silkscreens—were restricted, but people were still packed in like sardines. Furniture showrooms open all the time, but this one was designed by Venturi, Rauch & Scott Brown, a firm that is practically synonymous with the word iconoclasm. And it was designed for Knoll International, a company that is just as synonymous with the word establishment. It was clear, among the raised glasses and up-to-date gossip, that many of the architects and designers thought that this legendary believer in Mies and Breuer and Saarinen had, wittingly or not, opened a Pandora's box.

What is Knoll up to? Behind the showroom is actually a long-range plan that began when two ex-Wall Street entrepreneurs bought the long-established company in late 1977. The New York showroom and another in Boston are only a foreshadowing. The real emphasis is on new products. There are 45 major products in development, by 41 different architects and designers, many of whom have never designed furniture before. The list reads like a Who's Who of the avant-garde—Richard Meier, Stanley Tigerman, Coy Howard, Robert Stern, Richard Gwathmey/Siegel, Robert Venturi, Joseph D'Urso—while also including established product designers such as Richard Schultz, Ettore Sottsass, Jr., and Nob and Non Utsumi.

The idea is to make Knoll into a pioneer in design again, to reestablish its tradition of architects as designers, and to revitalize a stagnating company. The major figures in this new product drive are Jeffrey Osborne, the 35-year-old vice president of design who, as veteran of Knoll since college, pushed for many of these designers under the old regime; and Nan Swid, director of design coordination who works closely with the designers.

As a rule, Knoll approaches a would-be designer with a specific project. The names come from magazines, recommendations, or previous work. The showroom architects were, in fact, chosen from among those already signed on for furniture design. The longest-running relationship is with Gwathmey/Siegel, who designed a vacation house for co-owner Marshall Kogan in 1972 and an apartment for the Swids in 1976 (co-owners Stephen Swid and design coordinator Nan Swid are husband and wife). Knoll sees the
products in two categories, systems—neutral, less detailed—and objects.

Knoll is not particularly convinced by the stunned reactions it has received from some quarters. Says Stephen Swid: "When we first bought Knoll, we thought it was an International Style company because everyone told us so. But what does Bertoia have to do with Mies or with Saarinen’s curves and sweetness? Knoll lost its place on the leading edge ten years ago and we are committed to getting it back." As for which leading edge it is aiming for, the answer is any and all. "We have the strength to encompass breadth," says Osborne. "The whole world is experimenting now, not so much with new materials, but with new ideas."

The new owners are young—Swid is 39, Kogan 42. Their background is in investment funds and brokerage houses. In 1973, they became partners to purchase companies themselves. In July, 1974, they bought General Felt Industries, from whose Charles Pfister-designed offices they operate. In 1977, after two years of trying, they bought Knoll. In 1978, they started a couturier firm, Michaele Vollbracht, that has already made the cover of Women’s Wear Daily. "We want only companies with lifestyle implications," says Kogan. "We don’t want a nuts-and-bolts company." As for this gravitation to the design field, Swid neglects to mention his and Nan’s extensive art collection but adds: "We were the best-dressed guys on Wall Street."

On the more practical side, they describe Knoll as a good investment because it was undermanaged, with little capital invested in machinery, but with a terrific reputation. Increasing its earnings has meant several dramatic steps. Half the product line was eliminated. Office dealer accounts were welcomed. Both meant a more predictable factory load, and the result has been, say the owners, a halving of delivery time and tripling of orders.

Knoll’s 30 foreign licensees were cut to 12, based on which ones would invest capital. Again, they say, the income from this part of the business is three times higher. A new sales force now calls on interior designers and large potential clients. Showroom staff has been instructed to welcome nontrade passersby. Though they deny Knoll is aiming more at the residential market than before, they admit a third of the new products are applicable to homes, and one is a rocking chair. Also, because of the devalued dollar, export to Europe is a possible avenue, and Knoll’s market in Europe has traditionally been as solidly residential as its market in the U.S. is contract.

Already profitability and sales are up substantially, and plans are to double U.S. manufacturing facilities in the next few years. Knoll has bought a building in Soho for product development so designers who prefer can avoid time at the plant in East Greenville, Pa. Knoll seconds will also be available there. The next front is Europe. Gilles de Bure is advisor on designers there, and new showrooms are scheduled for Hamburg and Amsterdam. [Nory Miller]
A two-step move involving a new showroom design by Venturi, Rauch & Scott Brown and now a temporary installation by Joseph D'Urso has focused new attention on Knoll.
ike most works by Venturi, Rauch & Scott Brown, the Knoll New York showroom is controversial. But not controversial for being outrageous. It is controversial for being un­tragic.

Knoll had moved to this 33,000-gross-sq-ft space on Madison Avenue and 61st Street because of a tempting leasing arrangement that doubled their previous area and included renting the building after Knoll. Venturi, who is designing furniture for Knoll’s new space (p. 72), was charged with the task of converting some 22,600 sq ft on two floors into showrooms.

Because of a limited budget of $600,000 and a low ceiling height (11 ft floor to floor, 8 3 in. with the dropped ceiling), the space contained some built-in challenges. And let’s not forget the challenge of working for Knoll. Despite their reputation for up-to-date American and Italian designs and the cachet of Gaetan Cattani executing the last New York showroom in 1970, Knoll’s image had stayed very closely aligned with the “good design” Modern warhorses of the early days—the Mies, Nervi, Saarinen, and Breuer furniture.

Now Knoll
Since Knoll had been taken over by new owners, it was planning for future product lines with a slew of much-published young architects and designers. But the first visible announcement of its recharged identity took the form of a new showroom, without the new furniture. But the warhorses. This was not easy. A dramatic architectural statement always runs the risk of being a distraction to presenting and selling the designed objects. In this case, however, a completely neutral background would mean that all attention would be focused on the existing furniture.

So Venturi tried to do a little of both—to create some pizzazz amidst a low-key environment. A stepped and bowed green-carpeted platform in the reception area provides a setting for the display of objects as isolated artifacts. At some remove, a vertical, two-story shaft through which plush Knoll fabrics grandly spill marks the entrance to the showroom.

In contrast to these dramatic devices used in the lobby, Venturi wanted the furniture in the showroom to appear in its normal con-
Knoll showroom, New York

Text. Just not too normal. Piers 19 ft on center were wrapped in a lath-on-plaster cocoon to form fat, Egyptoid columns replete with lotus capitals. Spot lighting is mounted in black barrel-vault-like recesses arranged in Greek cross formations over furniture groupings. The edges of the room, facing busy, shadowy streets, are emphasized by rows of vertical wood slats, wavy in profile, that transmit a shimmering daylight to the interior. Walls and columns are trimly tied together with the cornice-height border of black paint.

Between the idea and execution

Venturi carefully selected furniture by style and color much the way one plants a garden of flowers. It should work. But for most observers viewing the showroom when it opened, the bloom had gone off the flowers. The pieces were too well known. The slightly quirky setting focused just a little too much attention on the familiar items, without causing them to be seen in a new light. The excitement surrounding the modern furniture back when it was revolutionary had not been re-created, the way an exaggerated version of a 1950s commercial interior might have done. On top of that, little things gnawed: like painting the square piers black above the lotus capitals and inserting fluorescent cove lighting around the lip. The device does dissolve the connection between pier and ceiling, as intended. But it also focuses attention on that low, low ceiling—and makes the furniture look more uniform.

The conference room provided the statement more in keeping with expectations—and appropriately controversial. Its silk-velvet-lined walls and matching upholstery set off the Brno chairs and the glass and stainless steel Pfeifer-designed table to dramatic effect. The ensemble, superb in an overdone Modern sumptuousness, comes off in part because one never associates "glam"-type kitsch with Knoll. When one links kitsch with Venturi, one acknowledges it is a Knowing Kitsch. The luminous ceiling, however, is another matter. Venturi took the backlit ceiling, of the type developed in Eero Saarinen's office in the 1950s (when Venturi was there), and adapted a Robert Adam ceiling design to it, using a silk-screen process on the acrylic sheet. But the light pastel, low-relief, linear tracery of an Adam ceiling is radically transformed by flattening out the ornament, outlining the motifs in thick black cloisonné, and lighting the pattern from behind. The essence of the original has been lost without something else of substance being substituted—much like unknowing kitsch.

D'Urso's adaptation to Venturi

Joe D'Urso was the next designer to contribute to reforming Knoll's image, with a furniture line first shown there this May. If Venturi's showroom architecture faltered in trying to create a strong interaction with the existing Knoll furniture, this is not at all the case with D'Urso's furniture vis-à-vis Venturi's architecture.

To its credit, Knoll took yet another chance: The company decided D'Urso could temporarily dispossess the "trad" stuff on the main selling floor and fill it completely with his own new line. Less Vanguard than one expects from the industrial-type designs D'Urso had used in the past (P/A, Sept. 1977, p. 60; Sept. 1979, p. 144), D'Urso's furniture design adheres remarkably to the Knoll imprint. Yet it advances the classic Modern look with an even slicker, more minimal design. Three basic types of pieces—a sofa, a low square coffee table, and a high-legged oval dining/conference table—are varied through minor changes in sizes, shapes, and sleek materials like polished cotton, stainless steel, or granite.

Yet it is D'Urso's installation of the collection that is so striking. He has made Venturi's architecture stand out effectively without detracting from his own display. First D'Urso removed the clutter of chairs from the reception area platform and replaced it with a few of his own shiny steel coffee tables. The coffee tables become art objects—Judd-like minimal boxes on hidden casters.

In the showroom, D'Urso turned off the fluorescent cove lights around the lotus capitals. Now, with a less obvious ceiling, the space doesn't seem so low. Because of the sparseness of the furniture groupings and the low-slung strong horizontal lines of D'Urso's own furniture, a sense of flowing space characteristic of Modern Architecture is introduced. It is a bit ironic that the second designer makes the original designer's space work.

Now Venturi's sculptural columns participate in that space, operating as three-dimensional elements around which it moves. Progressing continuously from the lobby in accordance with the movement of the peripatetic observer, the space is bound by the very flat, two-dimensional backdrop of fencing along the window walls. All elements seem in concert: even D'Urso's table tops echo the width of Venturi's black border.

Dangling questions

Venturi's solution, as it turns out, is actually extraordinary, but looked too ordinary with the existing furniture line, its crowded arrangement, and the lighting. The traditional collection itself is not really to blame. Nor can one blame Venturi for the concept—which is interesting as an idea—or fault him for not being as ingenious with furniture installation as he is with his concepts. The issues here go beyond the individual effort. They revolve around showroom design itself, and the relationship between architecture and the design object, between the container and the contained, between attitudes toward familiar and unfamiliar designs, and finally between display and merchandising. So far these questions—in the entire field of architecture and design—have not been resolved. One battleground is now in the showrooms. And Knoll is providing a theater of action where serious exploration is taking place.

[Suzanne Stephens]
Neither so controversial nor so ambitious a design as Venturi’s, the Boston showroom opened several months later with a ceremonial ribbon-cutting by the Mayor, to general approval. Well within the civilized sensualities of the Gwathmey/Siegel idiom on the interior, the showroom caused raised eyebrows predominantly because of its façade. It was a new problem for the firm, a piece of urban infill for an established and popular area—in this case Back Bay, Boston.

Instead of the usual private retreat within a mart complex or anonymous highrise, Knoll had bought a site among the elegant shops and Victorian architecture of Boston’s Newbury Street. Gwathmey/Siegel’s task was to set something comfortably within it. Their design takes the fullest advantage of the street and its advertising potential to curious passersby by turning half the base into a kind of glassed-in thrust stage, a protruding storefront window, full of furniture. Thus a potential clash between wholesale and neighboring retail was averted.

As consciously intended, if less successful, was the attempt at visual integration with the architecture of the area. Scale and massing were organized to this end. The building was held to six stories, comparable to others along the street. Its façade is flush with building lines to either side, while its stage window is pulled out, even with some storefronts.

Expression of function was then combined with stylistic allusion. The firestair is pulled to one side and faced in glass block like, says Gwathmey, “a big supergraphic.” Knoll’s space, the first three levels, is made into “an episode within a bigger framework” by being recessed. Interacting sculpturally are a still...
further recessed doorway and the projecting stage window. One column is exposed to express the structure and the role of columns inside. The top three stories (rental floors) "act as cornice" for Knoll's building within a building. Nonetheless there is another cornice effect at the real top.

The most prominent stylistic motif in the neighborhood is the bay window, and Gwathmey/Siegel's building makes one gesture after another towards it. The bay of glass block is one. The stage window is another. At the upper floors, there is an optical illusion induced by bracketing fully glazed windows with operable ones, making each group seem to bay.

In short, it is too much. Not that these things are too much to ask of a narrow façade, but here every piece seems to be dancing to a different tune. Complicating the problem is an unexpected—from this firm—awkwardness of proportion. One suspects that the Rationalist vocabulary which works well on an open field or in a gutted shell is without sufficient choices to handle the empirical problem of lining up to a variety of façades. The stage window, for instance, is a Classic form simply stretched to fit, a good idea resulting in a bulbous extrusion.

On the showroom interior, most of the effort is in the long, uninterrupted side wall leading into each room and the stairwell leading from one to another. The vocabulary is much the same as the firm has been working with in recent years: mirror, glass block, polychrome, ship's railing, round columns. . . The muted purples, greens, browns, flesh tones, and grays are some of the subtlest and most successfully blended the firm has produced, ordered, as always, plane by plane.

On the first level, the long wall becomes the sales rack for Knoll fabrics. Mirror above and below lends sparkle. A row of flesh-colored columns and a layer of track lighting add a certain pace and activity.

Each layer of each section of the staircase is disengaged with a slight alteration of color. Railing spins around each turn and up the inclines. Glass block wraps the knuckle at the landing. Two strips of blue neon trace the path on the ceiling. Though blaringly disco in photographs, they actually have relatively little visual impact.

The narrow brownstone scale and refined but distinct character of the envelope set off the furniture on the first floor to advantage. Upstairs, where floors two and three display systems, it is different. Here anything but a neutral envelope is distracting because the desks and partitions intended for the wide-open spaces of 30-ft bay skyscrapers are simply too big for this "townhouse." Like the first floor they have subtle tones, flesh-colored columns, and track lighting. But instead of fabric displays on their long walls, there are textury photomurals.

Behind and to one side of the showrooms are offices. Bits of mirror add illusion and glass block is used to let light in. Next to a tiny kitchen is one perfect gray and black booth as if from a chic New York restaurant, like a quotation from Shezan. The detail is Gwathmey/Siegel at its best, without—here humorously—the constraints of context.

[Nory Miller]
Data

Project: Knoll International showroom and offices, Boston.


Program: six-story infill on fashionable Victorian shopping street. Three lower floors, 6000 sq ft, are showroom with cellar storage; remaining floors, 9000 sq ft, are rental offices.

Major materials: concrete exterior walls, gypsum board interior; mirror, glass block.

Consultants: Thomas A. Polise, electro/mechanical; Souza and True, structural; Elliott Kaufman, photomurals.

General contractor: Bond Brothers.

Costs: $1.2 million, including interiors but not fees.

Photography: Steve Rosenthal.
Holland's Herman Hertzberger has recently completed a major concert hall noted for its contextualism.

Brian Brace Taylor

It goes without saying, perhaps, that no single building (or even necessarily a group of several buildings) can turn an urban renewal operation into a success. The economic, social, and cultural mechanisms that make a city function are indeed so complex that they seem, so far, to have eluded the capacities of architects and planners wishing to reconstitute and revitalize aging urban fabrics. Utrecht, Holland, is a classic case of horrific Modern construction (in the form of the Hoog Catharijne shopping complex) juxtaposed against a historic center of urban life.

As of last year, Utrecht has a new building, the Musikcentrum Vredenburg, squeezed onto a leftover site between the old and the more recent, between the dispersed but integrated economic and cultural life of the ancient city and the concentrated commercial activities of the megastructure surrounding the train station. The Music Center, by architect Herman Hertzberger of Amsterdam, is, in fact, a "package of buildings" (as he likes to refer to it), which may make the difference as to whether the master plan for Utrecht—begun 15 years ago—can finally provide a viable link with the old city.

Hertzberger fought a long battle for the Music Center to be located on this pivotal site. Some citizens preferred a typically isolated and monumental cultural facility somehow on the periphery. Site and interpretation of the program, however, go together, as do (fortunately!) the basic concept shared by the architect and the future director of the Music Center, Peter Smits. This concept involved a building that would be more than simply an auditorium for symphonic concerts; it would be designed and equipped to accommodate theatrical, operatic, and informal productions, as well as large meetings and even circuses! Its amphitheaterlike seating is intended to provide greater visual contact with the performers as well as to offer good acoustical qualities.

Urban implications

The vision of what a successful cultural center ought to entail, however, went even further. The 1500-seat concert hall is bordered on two sides by covered, multilevel passageways on which open shops, several offices, a cafe, restaurant, and an information center run through the city. These activities were included to provide incentives for constant daytime as well as evening use of the building. The passageways, inspired by 19th-Century French commercial passages are conceived as a continuation of the old city's streets and link up on the opposite side of the Music Center with the Hoog Catharijne shopping center. Articulation of these public spaces into corners for sitting, alcoves, exhibition areas, etc., allows opportunities for social intercourse for individual retreat from the crowds.

Yet the principal quality of the Center from which its ultimate humanness and peculiar Dutchness derive, is its accessibility both physically and visually, whether from outside or while within its confines. Aside from numerous entrances on the street and plaza, there are windows of every imaginable dimension, shape, and mode of glazing (transparent glass, translucent glass brick, etc.). One is constantly aware of movement of activity, of one's location vis-à-vis the outdoors, if only through fragmentary
The handling of a number of details and elements (left) recalls early Modern predecessors: Chareau, Mackintosh, Horta, and Rietveld.

The materials outside and inside are the same (left), with columns, column capitals, white painted sash, and pipe fencing with mesh punctuating the rhythms established by the masonry block, glass block, and pierced block walls. The columns, recurring on a grid of six meters, demarcate areas and allow the architect much freedom to fill in the grid and to shape individual spaces according to changes in program. The round columns modulate space subtly; their square capitals become an "overstatement" that conforms to construction requirements: they allow different ceiling heights of the different parts of the building to be unified. The column positioning creates a recurring motif, always recognizable but changing according to the context.

Interior glass-covered arcades, the same scale as alleys in the town's center, surround the music hall. Shops, restaurants, and offices line the arcade and link directly to the shopping center, Hoog Catharijne. The porous quality of the building is underscored as one passes through the layers of openings leading from the square outside to the interior arcades, from the arcades to the music center lobby, and from the lobby directly into the seating sections. The skylights and incandescent custom lighting above the arcades give the space its definition and character. The skylights are supported by channels bracketed to column capitals, which also carry sprinkler piping and smoke detection wires.
The chamfered square 1500-seat auditorium is organized around a central podium in amphitheaterlike configuration. Thus “surround-sound” acoustics and completely unobstructed sight lines are afforded concertgoers. The large dome in the roof enables daytime concerts to be held in natural light. The artificial lighting is operated from platforms built on the exposed beams crossing the hall.

Seating (opposite) abounds on stone plinths, wooden benches, and tables, in corners with cushions and stools. Tapestries and wood finishes line much of the walls to soften the predominance of “Brutalist” materials.

A ground-floor café near a moat can be viewed from the small balconies built around the freestanding columns.
It is all part of what Hertzberger terms the sought-after qualities of "protection and outlook" for the user-participant.

Dutch attitudes

The Dutch, as anyone who has visited Holland has noticed, are obsessed with keeping everything visible. Rooted, perhaps in part, in their Protestantism—where openness to observation contributes to moral rectitude—this rigorous national trait as it applies to inhabited spaces is also reflected in Dutch painting: one need only think of the countless scenes of domestic interiors by 17th-Century painters like Pieter de Hooch and Jan Vermeer. The concern with light was a significant aspect, but frequently one is confronted with a succession of rooms in the background, seen through open doors or windows.

The parallelism invoked here is by no means intended to suggest that Hertzberger, an architect consciously tried to incorporate such traditional modes of perception in his building, nor even to design with a pictorial vocabulary—as one might Le Corbusier did in the 1920s. No, as his previous buildings such as the Central Beheer and De Drie Hoven illustrate, Hertzberger has an extremely forceful architectural language that emerges from a twofold preoccupation: a structural system that is repetitive for economic reasons) and visually apparent expressive potential). At the same time, that structural system should be conducive to maximizing liberty of arrangement and utilization; spaces to suit a variety of functions.

Personal position

These ends are clearly not mutually exclusive apart from economic benefits of employing a continuous post-and-slab structure of concrete with cement block as infill, the exposed system offered the architect potential freedom for an architectural expression analogous to linguistics. This preoccupation comes straight down from Aalto, Kahn, and J. Eyck, with the difference that Hertzberger, dealing with vast programs such as the Music Center (7740 sq m), controls the le and breaks the rigorousness of the system wherever he desires. The columns with capitals give a sense of direction, scale, and
modulation to spaces. As columns they perform visually in differing fashions, according to where they are and what is beside them. In sum, they provide an ever-present, competent means for articulating interior space.

More explicit are the numerous references to the architectural language of Hertzberger’s immediate predecessors in Holland and elsewhere. (And he has his own list of them, which he is humble enough to cite!) Whether it be the skylight over the concert hall evoking that of Rietveld’s Schroeder House (also in Utrecht), the metal frame windows of Duiker perhaps, telephone booths inspired by the pivoting steel-and-glass doors in the *Maison de Verre* by Chareau and Bijvoet, or simply the atmosphere of the Palace Theater in London, the grateful acknowledgments by a critical, creative mind are all present—for an initiated elite, of course, to recognize if they will. And for the local citizens’ collective memory, Hertzberger has included (in no way gratuitously) fragments he recovered from several well-known buildings demolished to make way for the Music Center, as well as vestiges of the old city’s ramparts laid bare during site excavation.

Hertzberger’s new Music Center shocks some conventional tastes for its seeming lack of monumentality or for being too aggressively full of personal idiosyncrasies. Nevertheless it postulates a model for a new breed of center city cultural institutions, destined to concentrate and weave together a wealth of complementary socio-economic functions with a dynamic cultural life. Aalto timidly pointed in this direction 30 years ago with buildings such as the Culture House in Helsinki, financed by the local Communist party; unfortunately, the Finlandia Hall must be considered a regression in this respect. The Utrecht building keeps diversity and complexity of function at a balanced, humane level, precisely because those responsible for interpreting the program formulated their conception on the basis of acute and profound knowledge of Dutch bourgeois existence. The shops may not sustain the center’s existence—let alone pay off its original 50-million guilder price tag. But in a society where commerce and cultural activity have traditionally been intimately associated, the right dose of materialist incentives may permit cultural activities to come out of the isolated ghettos to which they have been relegated by Modernist city planning. 

Hertzberger has retrieved several fragments and some statues from a building nearby that was demolished for the shopping center, Hoog Catharijne. While the foundations for this building were being dug, remnants of the old Vredenburg castle were uncovered, some of which Hertzberger has incorporated into the Center.
Project: Musieksentrum Vre­enburg, Utrecht, Holland.

Architect: Herman Hertz­

ger; project team: Wim
cener, Frans Bosch Reitz,

enk de Weijer, Rijk Rietveld,

Schreuder, Dolf Floors; Wim

odzelmans, team leader.

Site: former site for the

6th­

century Vredenburg castle built

Charles V in an urban re ­

val area of 61 acres, called

Hoag Catharijne, that includes a

oping center and railway sta ­

n, in a town of 270,000

theast of Amsterdam.

rogram: to create a 10,695­
m complex tying the various

tions of the city together, pro­

ing a 1500-seat concert hall,

5-seat recital hall, plus

ips, restaurants, and other

port services. The concert hall

elf, 7740 sq m, makes use of

urround-sound" concept

ployed at Boettcher Hall in


). The large skylight over the

ll is insulated, and reverbera­
time is aided by the coffered

ing, exposed concrete walls,

ed steps, and wooden paneling.

ructure: concrete framing

h concrete block, concrete col­

ns placed on grid of six me­

es, spaces apportioned on 6m x

odule.

ajor materials: concrete, con­

te block, glass brick, white

ed aluminum framing.

sultants: P.A. de Lange

d L.G. Booy of Institute of

plied Physics in Delft, acous­

st: 50 million guilders ($7.5

lion).
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PPG: a Concern for the Future

Circle No. 345
Specifying reasonable sample requirements

William T. Lohmann

Specifiers often overspecify submittal requirements for samples. Such excess can result in unnecessary cost, liability, and lost time.

Like shop drawings, samples provide explicit information about a contractor's responsibility to comply with the contract documents and are reviewed by the architect or engineer for enforcing compliance with the design intent of those documents. Unlike shop drawings, however, samples serve at least three other unique purposes:

1. Finish samples of materials like plastic laminates and bricks allow the designer to select final colors and textures for materials to be used on the project. Sometimes comparable samples are necessary to verify a specified finish.

2. Quality control standards for fabricated work are established through samples of welded joints, fastening devices, and assemblies. Nebulous phrases in the specifications, such as "tight joints" and "grind smooth," are insufficient.

3. Samples are often required for performance testing. A curtainwall mockup is a good example.

Having the right to review submittals implies the architect/engineer's responsibility to do so. The design professional must therefore evaluate submittals carefully when they are required. Inadequate review could greatly increase professional liability if it results in a mishap. As with shop drawings, samples should be "reviewed" and not "approved." Samples which are unreasonable or unnecessary should not be specified.

There are compelling reasons for reducing the number of samples required for a project. Many materials, such as plaster, typical reinforcement, conduit, and standard concrete masonry units, have little or no design impact and can be examined at the project site. Work in progress can often be inspected at the plant or shop. Samples obtained during the design process can be used if referenced in the specifications. Any reduction in the quantity of samples to be submitted improves project logistics, reduces scheduling conflicts, and reduces office workload. It can also significantly reduce the cost of a project. The instructions for PSAE Masterspec Section IQ1 "Samples" suggest that samples cost approximately ten times as much for preparation, submittal, and processing as the same amount of work in place. Bidders are fully aware of such expense and pass it on to the owner.

When specifying sample submittals, include the typical requirements in Division I of the specifications. Require a schedule for submissions which is correlated with the construction schedule. Typical samples must be described in terms of size increments, labels, quantity, and distribution. Insist on an accompanying transmittal letter and appropriate installation instructions, and be sure that the contractor is responsible for paying shipping and delivery charges.

Specific and unique sample requirements belong in the appropriate specification sections under Divisions 2-16. Size of samples can range from color chips to a curtainwall mockup. Be sure to indicate the number desired. Tell the contractor if complete sample items, such as locksets, may be installed as part of the work after review (another cost savings) and specify appropriate samples. A 12" x 12" welded hollow metal frame corner says almost as much about the product as a full-size frame. If an entire room is needed for evaluation of paint finishes, specify such a room.

Large mockups transcend normal submittal procedures and are very expensive to fabricate and transport. If comprehensive testing prior to fabrication is necessary for a custom-designed curtainwall, for instance, a mockup is essential. Allowance should be made, however, for possible testing at the fabricator's plant, if adequate facilities are available, instead of at an independent laboratory. If limited testing would suffice, the mockup could be assembled at the plant and later installed on the site. Field testing of a portion of the permanent wall in place is another option.

Some problem areas require particular diligence in specifying and processing samples. It is important to specify simultaneous submission of related materials for some assemblies and systems, such as glazing gaskets and curtainwall components. One cannot be evaluated without the other. The roofing membrane, however, may depend on the contractor's selection of roof insulation options and therefore should be submitted after the insulation. When submittals are incomplete or samples incorrectly identified, they should be rejected entirely and reviewed only when returned in proper form.

After review, one sample is usually returned to the contractor, another is sent to the architect's field representative, and a third is retained by the firm. The field representative's set becomes the basis for quality control. Some items may actually be installed. The architect's set should be kept for reference at least until completion of the project, then given to the owner, recycled to the manufacturer, or transferred to the firm's sample room. Where does one store a 3' x 5' welded steel pipe railing sample?
As innovation increases the capacity of electronic information machines, their size and price are shrinking fast. Greater numbers of them are being found in the architectural and engineering office. The little giants are too fast, precise, and cheap to resist.

The price of a programmable calculator is now below $300. For under $5000, the computer store on the corner offers a microcomputer with a video display in color. A purchase of less than $15,000 enables an office to own a word processing machine that will type, correct, duplicate, store, and remember on command. The same investment scale will allow an A/E firm to buy its own desktop energy computer. Less than $30,000 buys a machine that will do sophisticated structural engineering analysis. A price below $100,000 offers word processing, data processing, remote terminals, and the capacity of plugging into larger, main-frame machines. Below $200,000 it is possible to own a computer graphics assembly which will draft conventional size working drawings. In addition to the purchasing capability, all of the above can be leased, and access to a very large "unaffordable" computer may be had for a small monthly rental price and payment for the computer, and all of these prices are plummeting.

In this field of electronic wonders, many of the people who sell the machines are sleepy to sleeping at the specific mention of architects. Many computer companies position themselves to cover horizontally the broad spectrum of the small-business market, and business is good. Only a few companies have the expertise and interest to try to cover architectural business vertically. In contrast to the quantitative nature of his other clientele, the qualitative nature of the architectural decision-maker can frustrate the computer salesman. Many architects are unsure where their business is going to be six months from today, and they find it difficult to quantify their information flow and delivery speed. Nevertheless, the need is there and the average architectural office is being tantalized by the lowering prices. Some have already taken the plunge.

**Examples:** The 18-man San Antonio architectural firm of Rehler, Vaughn, Beatty & Koone recently installed its third-generation minicomputer. Until recently, one terminal and a single printer were actively doing accounting, income property analysis, cost estimating, and word processing. The new $25,000 Cromenco system will consist of four terminals and three printers allowing simultaneous access. The accounting and word processing are packaged software systems. These and other uses have been developed in conjunction with Micro-Mode, a local computer systems house that specializes in architectural applications.

Davis, Brody & Associates' new AM International minicomputer has software to do word processing, data processing, and accounting. Five terminal stations in the firm's New York office feed into a single central processing unit: three for secretarial work, one for shop drawings, and one for accounting. The Davis Brody system evolved from early experience with a time-sharing computer made available by a client. The uses proceeded from monitoring progress and drawings for a building to indexing, room finish schedule: word processing, and specification.

Says Alan Schwartzman of Davis Brody, "We have met our objective to see the every secretary in the office has a terminal." The system can expand eventually to eight work stations and still link into time-sharing network with a main frame computer. Deciding on their system took Davis Brody one year.

The office of the Ehrenkrantz Group in New York is practically a showroom of electronic machine processing aids: Hospital space programming, word processing, accounting, and energy simulation are all on computers of various sizes. The first "time-shared" terminal was put in place in the early 1970s to do computer-aided hospital programming. By 1974, a minicomputer was included, in addition to word processing, and spec writing. In the late 1970s, accounting was introduced as well a energy simulation with a microcomputer, small graphic plotter, and high-speed printer. None of this machinery is owned by Ehrenkrantz; it is all leased. A high percentage of all architectural installations are leased.

Says Peter Kastl of the Ehrenkrantz firm: "We have computer power that we are always looking for ways to use." He approaches the different machines with varying degrees of certainty. "I cannot tell you where we will be next year with energy," he explains; "I can tell you where we are likely to be with word processing." Kastl is convinced of the value of word processing: "Anybody who produces specs would have to examine word processing if for no other reason than reliability." Ehrenkrantz has been watching the lowering price of computer graphics with great interest but has not yet indulged.

The A/E firm of Gibbs & Hill in New York cost-justified its use of computerized drafting years ago. Large scale power plant design and engineer
1g applications make the firm one of the leaders in the field and allow for instruction documents than can contain thousands of drawings and details. Some "drafting rooms" at Gibbs & Hill look more like a television station. The engineering computer capability of the firm has also increased to the point where a separate group within the firm, Geographical Information Services (GIS), is occupied exclusively with solving problems related to the computerized management of spatial information.

These examples reflect major improvements over the past two decades. As architect/computer consultant Frank Tasioswki reminds us: "What we now call a hand-held calculator was a computer 20 years ago."

A hand-held programmable calculator

Daryanani is chief of design for Syska & Hennessy, engineers, in New York. During the mid-1970s, Daryanani spent much time in the Middle East on engineering design and oversees assignments. The use of large-scale computers as design aids was ruled out because they were too expensive or simply unavailable. Daryanani decided, therefore, to explore the then-fledgling programmable calculator market. In the months that followed that decision, an airplane ride or an airport wait produced enough time to generate a new calculator program. What had taken two weeks of hand engineering calculation was reduced first to two days, then a half-day, then two or three hours. Today there are some 20 programmable calculators being used at Syska & Hennessy, and Daryanani has recently published a book containing 22 different programs: Building Systems Design with Programmable Calculators published by McGraw-Hill. The programs include piping design, duct sizing, lighting calculations, solar shading, space planning, energy calculations, life-cycle costing, and others. About a third of them are directly appropriate to use by architectural designers.

A recent major function of the programmable calculator has been energy calculations. The Royal Institute of British Architects has an extensive energy design program using the Texas Instruments TI-59 calculator. Throughout this country, several design firms offer energy programs for the programmable calculator. From New Hampshire, Total Environmental Action or TEA (p. 63) markets a program called TEANET. Massdesign in Cambridge, Ma, is offering the SunPulse II solar simulation program, developed by architect Gordon Tully, for use in active and passive solar design. Another alternative, LBL/Passive, has been created by David Goldstein and Robert Clear at the University of Cali-
A word processing system: A growing office

Technics: Electronic design aids

A word processing system: A growing office

A word processing system needs a system that can grow. All systems are based on a keyboard input device, a viewing screen, and a printer. Most first-stage systems can be purchased for less than $15,000. Adding another input terminal allows two typists to work simultaneously and avoids costly paperwork bottlenecks. The second-stage system is priced about $26,000. A "full grown" cluster of typing stations works from a central memory unit and gives all machines access to the same information. It costs around $32,000. Costs are, of course, approximate.

A word processing system: A growing office

The machines: The use of solid-state software in the form of magnetic cards makes it possible to turn a normal scientific calculator into a custom calculator that will perform sequential mathematical operations and store data. The two leading manufacturers in the field at the moment are Texas Instruments and Hewlett-Packard. Daryanani's programs are designed to be used on the TI-59 and HP-97 machines.

For the purpose of aiding and speeding up calculations in the field, the programmable portable calculator is ideal. The price is going down each year and is within reach of any professional. In the office, however, the user can soon outgrow the calculator. Says Daryanani: "As soon as you start programming, you write bigger and bigger programs." Eventually, as skills increase, a larger machine becomes attractive. Parker Hurte of Bolt, Beranek & Newman, Cambridge, Ma, originally wrote the OPLAN computer program (P/A, Sept. 1979, p. 201) for open office acoustics for the programmable calculator. He eventually graduated to a large, mainframe computer which could be used in remote locations by time sharing and allows the alpha-numeric English word interaction with the computer and the user.

The word processor: Architectural design is partly words. There are specifications, schedules, logs, brochures, forms, contracts, letters, and proposals. Some of the words on the drawings should not even be there. All of the words not on the drawings are typewritten.

National studies have demonstrated that a typist who has been tested at 80 words per minute actually averages a typing speed in the office of around 15 words per minute. There are some obvious reasons for this and some not so obvious. The test for typing speed is usually made copying a perfect sheet of typing. All the lines are of known length and number. In the office, the typist starts a line, speeds up in the middle and slows at the end, anticipating a word break or overrun. The speed of typing whole lines also slows down towards the bottom of the sheet, where corrections are more difficult to make.

A word processor is a computerized typing machine which usually consists of a typewriter keyboard, a viewing screen, and a printer. The basic difference between the normal typewriter and such a machine is that the whole page, or several lines, can be typed without slowing down. The machine automatically proceeds from line to line without breaking words. Corrections can be made on the screen without touching paper. When the page is complete, the author can proofread and correct or even omit words or lines. A push of a button produces as many copies as desired. Not having to think about errors, the end of the line, or the end of the page obviously speeds up the process.

If the typist is not the author, the page needs to be proofread. If a change is necessary, the typist calls the page onto the machine and makes the change. If it is a large error or repair, the page must again go to the author. With many word processors, the change can be automatically bold-faced or underlined on the copy that is proofread, saving the proofreader time. When the page is accepted, the corrections are perfect typed, and the final copy is made. The letter itself can then be entered into memory and "filed," without walking copying, or large file cabinets.

The longer the typewritten work, the more time is saved. Whole sections can be deleted, and the document is automatically repaged. The margins can be readjusted or the type face changed in seconds.

Case history: The architectural firm of Russo & Sonder in New York specializes in health care facilities. It is a medium sized office that ranges from 40-60 people. The Vydec 1400 word processor has been in use at Russo & Sonder for one and one-half years. The 14,000 machine has been leased for around $600 per month. It replaces one employee. After a two-day course, the two people who specialize in its use took on week to adjust to it. The office space writer then wrote a master specification which was entered onto a disc on the machine. The use soon branched into planning studies, equipment studies and graphics listings. It has also proven very effective in customizing the office brochure to fit each particular client's needs. A new addition to the system will allow two keyboards with accompanying screens to use a single printer. The bottleneck proved to be one typist composing with the other waiting.

Spec writing: Computers have been employed for specifications writing for several years. As the machines come down in price, more architects will be evaluating the packaged software for
During the first ten years of its existence, Masterspec accumulated over 200 users. Developed by Production Systems for Architects & Engineers (PSAE), the Masterspec system includes the option of computerized disc storage of the entire specification (P/A, Oct. 1974, p. 106). Less than three percent of the users, however, have opted for the computer version. The newer, streamlined Masterspec 2 will be lower in cost. The expected cost of the hard copy will be $395 with an updating fee of $245 per year. The Lanier disc library version will initially cost $470 with an update fee of $145 each year. For machines other than Lanier, a software conversion cost will about double the disc cost. The new system will be available in mid-June. It is endorsed by the AIA, ACEC, and SPE.

Also available as of mid-June is a new master specification for the word processor or computer, SPECText, on Lanier. The 1800-page document, which follows the 16-section CSI format, has been endorsed by the Construction Sciences Research Foundation and by CSI. The specifications system has been available in hard copy form for about one year. Bowne Information Systems in New York has been designated as the sole vendor of the system in electronic form and exclusively on new Lanier XD discs. There will be two methods of utilizing the electronic specifications system. Architects who own Lanier word-processing machines need an XD disc attachment for the machine and then pay $3000 for the 40 uses and hard copy. The updating cost per year will be $1000.

The less expensive method is the "on-line" version. For $850 per year, the Lanier word processor will be linked to Bowne Information Systems via an 4800 phone adapter. The discs will remain at Bowne. For each page of copy forwarded, the subscriber will be charged $2. The subsequent cost of updating will then be $650 per year. The current cost of the hard copy alone from CSI is $850.

Computers

It is important to understand the distinction between word processing, data processing, and information processing. A word processor involves a constant interaction between the user and the machine. The output instantaneously follows the input. With a data processor, the user types information into the machine and then the machine is called upon to compute. In computer lingo, the word processor is input/output bound, and the computer is compute bound. The word processor uses a smaller central processor and is less powerful; therefore it is cheaper. A word processor uses a large-scale, instantaneous nonrepetitive process. It needs a screen. The data processor is a "background" large-scale repetitive process. It needs no screen. A unit that will do both is called an information processor.

Most industry figures agree that for the moment, the combination unit does not yet yield the highest quality in both word and data processing. They are quick to add, however, that developments are taking place within the industry that will permit excellent overall quality within five years. They also predict the price of the information processor will be reduced drastically in the near future. At present, a word processor might fall in the range of $15,000, a data processor $30,000, and an information processor $100,000. The prices are coming down monthly.

Micros: What is mini and what is micro is somewhat ill-defined by the industry. If it costs less than $5000, cannot have Ti-59 programmable calculator in use.

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TI-59 HEAT TRANSMISSION COEFFICIENT PROGRAM

BHTP-1 HEAT TRANSITION COEFFICIENT

The output of a computer takes many forms.

The hospital program in the diagram above statistically approximates hospital function size. The structural design diagrams visually display all design choices. Sital Daryani's calculator program determines heat transmission coefficients on a TI-59.
more than three terminals attached to it, and is sold off the shelf in a store, it is probably a microcomputer.

Ehrenkrantz has linked up a color TV (that serves as a video console), an Apple II microcomputer keyboard terminal, a graphics tablet and light pen, and a small graph plotter. The total assembly cost less than $7000 and is used for energy simulation.

A desk top computer: In the mid-1970s, the Carrier Corporation wrote its own energy analysis program for internal use. It was based on ASHRAE 90-75 and was called REAP (Rational Energy Analysis Program). The machine chosen was a Canon BX-1. The program was written in BASIC, and the interactive instructions appear one line at a time in a narrow window above the keyboard. The entire unit is self-contained (including the printer) and is only slightly bigger than a typewriter. The four levels of programming enable professionals to calculate design loads, heating and cooling consumption, system analysis, and life-cycle costing. The REAP BX program comes on 30 mini floppy discs. Carrier was so pleased with the in-house results that it has just begun to market the machine and the program to design professionals. It is expected to sell for just under $10,000.

Mini: Boston engineer and systems building designer Neal Mitchell has recognized the great potential of the minicomputer as a design aid. He is convinced that such tools "enlarge the capacity of the professional." To accomplish this task, Mitchell has formed Structural Programming, Inc., and sells DEC (Digital Equipment Corporation) computers and the software for word processing, construction management, structural engineering, and ECAPs, a production drawing system. He has attempted to simplify the use of these complex tools to the point where most architects can use them. Says Mitchell: "The effort is to decrease the complication of the user interface. The architect stays the architect, the engineer becomes the box." The basic machinery sells for about $20,000. The structural program sells for another $20,000. The word processing software is under $3000, and the total drawing system hardware and software sell for around $200,000.

Maxi and time sharing: Owning your own computer, of course, does not stop with the purchase of the hardware and software. Maintenance contracts must be arranged, and staff must be trained or hired. Through leasing arrangements, the machinery might be maintained and a software technical consultant thrown in as part of the deal.

With time sharing, the user can call up any one of 50 or 60 programs and will be charged only for the time spent on line. Often the time-sharing firm has technical expertise available as close as the telephone.

For less than $100 per month, the user can rent a typewriter terminal. For as much as $600 per month he or she can also have a high-speed printer and video display. The time cost is a complicated equation which takes into consideration the time spent on the machine, the type of computing done, the memory space used, and the lines printed out. A recent 14-hour structural computation designed 5000 structural members and cost about $8000. An unadorned computer analysis for a DOE design Energy Calculation using DOE 2 can cost in the neighborhood of $500 in computer time. Such numbers are of course relative to building size and type. They do put into perspective, however, the kind of expense which a computer user can accrue.

The time-sharing system is not competitive with a word processor. A page of typing by time sharing can cost three times that of a word processor. For the infrequent user of smaller programs or the firm that is looking to minimize its capital outlay and maximize its programming menu, time sharing competes very well. It is also the only way that a firm can have access to a large computer and the kind of expertise a very large firm may own.

The software and the selection
As of July 1, 1980, architect/computer consultant Frank Stasiowski will publish Design Computedata, the first directory of software and hardware systems specifically for architects, engineers, and planners. The cost will be $80 prepaid from Design Computedata, 43 Van Brunt Ave., Dedham, MA 02026. The purpose of the book is to help the architect choose the correct software/hardware vendor system. To accomplish this task, Stasiowski has coupled a lengthy selection process explanation with a listing of over 175 systems now in use in A/E and planning firms. Also included are computer consultants, publications, bibliography, and glossary of terms. The text promises to be the first "bible" of selection for the architectural portion of the industry.

The selection of a system begins not with hardware, but with software. "What I see as the most important part of the selection process is the software," says Stasiowski; "the key question with software is being able to change it. Once the software expectation is determined, the hardware can be matched to it. "All the hardware will work," he continues; "the question is how much money will it take to make it work." The price of the software involves labor costs and is therefore going up.

Stasiowski outlines a nine-month "birth" process for determining and obtaining the correct computer system. The first three months are spent in self-evaluation. The second three months are spent in market evaluation, and the last three are used to sign the contracts, educate the staff, and install the unit.

The self-evaluation stage is seen as critical. The firm must take stock of the total scope of its work that can be accomplished by machine and concentrate on that area which can be most profitably mechanized. Future growth and change are critical. The potential systems owner must meticulously document the velocity, type, and volume of information which will be machine processed. Stasiowski calls it: "How much of what kind and how often it is used." This study serves as the physical representation of what the company "policy" is toward that data, and "software is policy." This result is a "specification" for the system.

The second stage of the process is to try to match the specified software demands with the existing available software and try to evaluate whether that package can be changed and how. This is where the vendor comes in. Each software system has its own "policy"...
built in, and unless the vendor understands the policy of the firm, "the system and the firm can be mismatched."

Stasiowski plans a system for growth and future change as far ahead as five years, "I also like to recommend to firms that they get as many different applications as possible on the same machine." The caution against exaggerated expectations and estimates that at least 20 years are necessary before the system really reaches efficiency.

Of course the bottom line for a computing system is the cost. Stasiowski's rule of thumb for a computer is that the cost of hardware is dropping about 30 percent per year. Because of this, he adds, "Hardware by the end of the decade will be given away to encourage people to purchase the software." He sees computer graphics as eventually streamlining the working drawing phase of design development, allowing more time for design.

One large West Coast firm, which currently uses computer drafting, has three work shifts per day. The night crew just comes in to watch the drawings emerge from the plotter rolls. Even the plotter may be eventually dismissed in preference to a piece of film placed across the computer terminal's video screen and photographically exposed. This means that a remote terminal at the building site can call up a drawing electronically whenever necessary, eliminating the need for a permanent set of drawings.

Conclusion
A list of "Computer Revolution Facts" furnished by IBM contains the following statement: "The first computers could multiply two 10-digit numbers 2000 times a second and in four hours could do a job that would have taken a mathematician 1500 years. By 1952, it cost $1.26 to do 100,000 multiplications. By 1958, the cost had dropped to 26 cents. Today the cost is a fraction of a penny."

The question is not whether to use computers, it is how. It is not when, it is now. [Richard Rush]

Acknowledgments
We wish to thank the following architects, engineers, consultants, and manufacturers for their help in preparing this article: AM International; Apple Computer, Inc.; Auto-Trol; Leonard Bain; Vladimir Bazjanac; Boeing Computer Services; Bolt, Beranek & Newman, Inc.; Bowne Information Systems; Carrier REAP BX; Control Data Corp.; Data General; Davis, Brody & Associates; Digital Equipment Corp.; Educational Data Systems; The Ehrenkrantz Group; Gibbs & Hill, Inc.; Herman Miller; Hewlett-Packard; IBM; Johns-Manville; Lanier Business Products; Lennox Industries, Inc.; McDonnell Douglas Automation Co.; The Meltzer Group; Micro-Mode; Modern Office Procedures; Realco Information Systems, Inc.; Redactron Corp.; Rehler, Vaughn, Beaty & Koone, Inc., Salvatore N. Romano; Russo & Sonder; Solarcon; Frank Stasiowski; Structural Programming, Inc.; Syska & Hennessy, Inc.; TEA, Inc.; Texas Instruments; Vydec; Wang Laboratories, Inc.; Wordstream Corp.

For computer product and literature information, see p. 115.
Owner access to construction trust funds

Norman Coplan

Mortgage and building loan funds set aside for the protection of contractors, architects, engineers, and others are available to the owner in some cases.

Under the lien law of many states, monies payable to a general contractor are deemed trust funds for the protection of the subcontractors and materialmen. Many of these statutes also provide that all funds received by an owner by way of building loans and mortgages shall also be deemed trust funds for the protection of contractors, architects, engineers, and others. Under such laws, the owner, as trustee, is obligated to use those funds solely for the cost of improvements, and anyone having claims for the cost of such improvements is deemed a trust beneficiary.

In a recent case in New York arising under such a statute, an issue of first impression was raised (Fentron Architectural Metals Corp. v. Solow, 420 N.Y.S. 2d 950). The plaintiff, a construction subcontractor, sued the owner under the Lien Law of New York contending that it was owed over $400,000 in connection with work and materials furnished for the construction of a unique 50-story high-rise office building in Manhattan. It was the claim of the plaintiff that out of a $75 million building loan, the owner had diverted approximately $25 million from the trust fund by the expediency of paying such sum as "ground rent" to himself. While the payment of ground rent is recognized as a "cost of improvement" under the Lien Law, the assertion that the payment of ground rent by the owner to himself, or his nominee, is an unlawful diversion from the trust fund had never been considered before.

In order to stretch the debt financing of the property to the maximum, the owner had employed the technicality of split financing, separating the parcel into fee and leasehold interests, each of which was separately financed. The owner conveyed fee title to the property to a wholly owned subsidiary, which in turn granted a 90-year ground lease to another subsidiary corporation. The bank gave a commitment for a construction loan in the sum of $75 million, secured by a mortgage on the leasehold. The subsidiary corporation that had been granted the leasehold assigned its lease back to the individual owner, but each time a payment on the construction loan was made, the owner assigned the leasehold to still another subsidiary corporation, which received the money, endorsed the check, and reassigned the lease to the owner. The owner deposited the funds in the subsidiary corporation that had been originally granted the ground lease, which company financed the cost of construction. A similar method of financing was used in connection with the fee estate.

Although the system of financing utilized by the owner was undoubtedly complicated, the Court pointed out that it did not constitute a plan to cheat beneficiaries of the trust. The Court said:

"Although the conveyances and reconveyances to the various entities appear incredibly complex, it was no more so than the expert passing of a professional basketball team, where the ball changes hands quickly from player to player, one bringing the ball down court, one evading double teaming, one feinting, and one going for the basket—but with the same team in continuous possession of the ball."

"Here, there were separate fee and leasehold estates, both owned by (the owner) Solow. Each estate was separately financed by separate lenders. The holder of the leasehold estate (Solow) was obligated by the terms of the lease to pay ground rent to the fee owner (Solow). The payments were not illusory; they were the security against which money was loaned. It was not, in the view of the court, a secret device for milking funds or cheating subcontractors of their just due."

The Court further ruled that although under the Lien Law mortgage monies were deemed a trust fund, their utilization by the owner was not limited entirely by trust concepts. The Court stated:

"Payments out of the financing proceeds are not forbidden to be made by the owner to himself. Indeed, the statute expressly contemplates reimbursement to the owner for costs of improvement incurred prior to the date advances were received."

"Although denominated a trust fund, not only may the trustee reimburse himself, but he need not hold the fund intact, and he may commingle the funds. He may treat the trust funds as running bookkeeping balances rather than as segregated accounts. When the financing proceeds, or equivalent sums, have been fully disbursed, the trust funds may be deemed exhausted, even if there remain subcontractors with outstanding claims. They must then look to the general funds and credit of the owner, or of his bonding company, for further satisfaction."

"The ground rents in question paid during construction pursuant to the lease aggregated $23 million. The owner having added $50 million of funds from other sources to the trust funds to pay for cost of improvement, there was no skimming off by the owner to the detriment of subcontractors. The underlying purpose of Article 3-A of the Lien Law was to prevent an owner or general contractor from pocketing construction loan proceeds for his own benefit when those who have added value to the improvement are deprived of a source of payment. Although the ground rent payments were 'to himself,' the owner did not improperly siphon off funds to enrich himself at the expense of the subcontractor."
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historical works


ook continued on page 110]
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Books continued from page 109

This annotated bibliography was compiled by an art bibliographer and reference librarian to meet the widely divergent information needs of all those concerned with historic preservation, from architects, builders, and designers to lawyers, developers, planners, and involved citizens. Fourteen chapters cover separate topics dealing with types of information sources, such as general reference works, historical current overviews, description and documentation, guidebooks, and periodicals. Within each topical chapter, citations to published sources of information are grouped under specialized subjects. This arrangement, and the inclusion of a detailed subject index, help the user locate specific materials throughout the volume.


This new volume, lavishly illustrated with color and black-and-white photographs, watercolors, and line drawings is the first architectural history of the White House ever to be published. The book describes the design, construction, present condition of the house, detailing its history from time of its design competition through its reconstruction after the burning in 1812, its renovation after the Civil War, additional renovations in 1902 and 1907, the Truman restoration in 1948, and the Kennedy interior restoration in 1961. Throughout, many quotations from original sources provide factual background and capture the spirit of the time, showing how prevailing social, economic, and aesthetic patterns strongly influenced the direction of the work. In addition, many myths and speculations surrounding the house's original design and subsequent alterations are clarified by previously unpublished documentary evidence.


Called by William H. Whyte "a splendid guide and a companion for walking through American cities," this volume traces the development of architectural styles in the U.S. from the simple wood houses of the 17th Century to steel and glass towers of the early Modern period. The book describes the historical background, construction materials and basic structures and styles. The chapters are arranged first by building function or type, and then by the specific architectural period. Technical terms are clearly defined, and the text is illustrated with examples of drawings taken mainly from the Historic American Buildings Survey and the American Architectural Record.


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The Model 9222Q electrostatic printer/plotter is 22 in. wide and has a Quadrascan® writing head consisting of four offset rows of styluses. Dots overlap about 50 percent, producing a smooth line. The printer/plotter prints up to 560 lines per minute and plots 1.5 in. per second. Benson-Varian, Inc. Circle 103 on reader service card.

Computer systems for facility design. Herman Miller has initiated time sharing to transfer its computer software capability to professionals involved in facility design. Leased terminals connected with the firm’s computer have access to two programs: Communication Interaction AnalysisSM, providing information about the communications network within an organization; and Activity Equipment AnalysisSM, a comprehensive detailing of workers’ equipment requirements. Herman Miller. Circle 104 on reader service card.

Literature

Burroughs RIII Word Processors brochure outlines the text editor systems offered at various prices, depending on the level of performance required. The four-page brochure describes three systems, explains options, and provides systems specifications. Redactron Corp. Circle 200 on reader service card.

Masterspec 2 is divided into the 16-division format of the Uniform Construction Index (UCI). It is available in

[Literature continued on page 116]
two editions, one for architects and general engineering firms, and one for mechanical/electrical consulting firms. There is the option of obtaining it in Diskette Libraries in any version that the subscriber has in Reference Library form. A 12-page brochure describes Masterspec 2 and its many options that will adapt it to the needs of a particular office. Products Systems for Architects & Engineers.

**Circle 201 on reader service card**

**Static and dynamic analysis of structures.** This program is a timesharing software application of economic analysis and design of building structures subjected to dead load, live load, thermal shock, and earthquake load. It calculates stresses, deflections, moments, reactions, and sections. Newsletters and an application memo describe the program. Boeing Computer Services Co.

**Circle 202 on reader service card**

**2200 Series computers,** from a desk-top model to a system that handles several processing jobs at the same time, are described, along with optional equipment, in an eight-page brochure. Their use in various types of business is discussed in a problem/solution format. There is also a section on evaluating a computer system. Wang.

**Circle 203 on reader service card**

**Minicomputer hardware/software catalog.** Describes the Point 4® computer, Mighty Mux® Direct Memory Access multiplexer, and Micro-N Processor hardware and some of the software systems available for use with the computers. Educational Data Systems.

**Circle 204 on reader service card**

**Integrated Information Systems** permits one operator to handle data processing, copying, and printing through a single workstation. A six-page brochure describes the way in which computers are changing office information handling, improving communications, and increasing productivity. Wang.

**Circle 205 on reader service card**

**Rational Energy Analysis Program (REAP BX®)** is described in a four-page brochure. Using local weather data, REAP BX can calculate the HVAC energy consumption of various heating and cooling combinations. The program is based on recognized procedures and information for building and energy analysis and is programmed in extended basic language, for use with a programmable calculator. Carrier Air Conditioning Div., Carrier Corp.

**Circle 206 on reader service card**

**Building design and operation software.** Timesharing software applications aid in design and operation of energy-efficient buildings, both new and existing construction. The program calculates annual energy use forecasts life cycle costs, return on investment, payback period, cash flow, and profit and loss. It provides for economic analysis and costing of solar installations. A package of newsletters and application memos describes the program. Boeing Computer Services Co.

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**IBM 6/420 information processor** added to the Office System 6 line, offers flexibility and speed in performing document assembly, global search, exchange, and field update, according to the company. One-page or multi-page documents can be assembled without operator assistance. Global search exchange enables characters or phrases to be searched, either by word or by character, for purposes of addition, deletion, or exchange. Field update permits files to be updated and maintained automatically. International Business Machines Corp., Office Products Div.

**Circle 208 on reader service card**

**'A Guide to Evaluating Small Business Systems,** a 12-page brochure, suggests questions to ask in considering a com-

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puter system. Information about the vendor, the software, the hardware, and the total system should be obtained. Financial considerations are also evaluated: whether to rent, lease, or buy the equipment. Data General Corp.

Circle 209 on reader service card

Computer systems brochure describes and illustrates Apple II personal computer and Apple III professional computer. Special features of each are outlined. Manuals are available to help the user learn to write programs. Software libraries include programs in BASIC, UCSD Pascal®, FORTRAN, PILOT, and others. Apple Computer.

Circle 210 on reader service card

MCAUTO engineering applications brochure explains computer services consisting of both programs and personnel available for solving engineering problems. Access is by means of computer, teletypewriter, or display terminal. Among the programs are those for mechanical engineering, project management, and structural engineering. The 12-page brochure defines the scope of many of the programs offered. McDonnell Douglas Automation Co.

Circle 211 on reader service card

Construction analysis, design, and management programs. The Integrated Design Support System is made up of several program groups for minicomputers: project management or construction management; structural analysis and design; construction accounting; professional accounting; and real estate development appraisal. Each program is outlined in a 16-page brochure which tells the functions performed, the type of firms for which they are designed, and special features. Structural Programming, Inc.

Circle 212 on reader service card

Civil Engineering for the Construction Industry (CE/CI) is a broad range of computer applications for the construction industry developed in cooperation with architectural/engineering firms. The company says the programs incorporate the latest industry standards for code compliance. Among the many areas covered are structural engineering, mapping and surveying, mechanical, electrical, environmental and energy analysis, construction management, graphics, engineering business applications, and construction specifications. The service is outlined in a six-page brochure. Cybernet, Control Data Corp.

Circle 214 on reader service card

Solar energy calculation programs for the Hewlett-Packard HP41C calculator cover solar gain, collector efficiency, active and passive systems, and weather data cards. All programs, in the form of prerecorded magnetic cards, are listed in a catalog. Solarcon, Inc.

Circle 215 on reader service card

The Wide Plotter, 36 or 42 in. wide, for high-speed electrostatic plotting, can produce E-size drawings in as little as 22 seconds. It can be used in computer-aided design, geophysical plotting, mapping, and business graphics. A six-page brochure discusses models available and their specifications, the Versaplot® software, and includes a model selection chart. Versatec.

Circle 216 on reader service card

Will the perfect Gravel Stop please stand up? Always!!

And what could be more perfect than a system that grips the roofing felts so tightly that there's never been a reported failure in over 20 years and over 10,000 installations. Perfect means permanent and that's what you get in the HICKMAN GRAVEL STOP SYSTEM. The perfect clamp attached with the perfect fastener to create the perfect system . . . for permanent waterproof protection that's guaranteed for 5 years. See us in Sweet's (7.3 Hi).

Call our FREE "Roof-Line" . . . 1-800-438-3897

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Circle No. 331 on Reader Service Card
The sky's the limit.
Grinnell® Sprinklers Can Meet the Challenge of Your Most Challenging Designs.

When Bullock's in San Jose, California’s Oakridge Mall installed the first fabric roof ever used in a department store, they chose Grinnell sprinklers.

The problem that faced the owners, the architects and the insurance company was how to provide needed sprinkler protection that could respond quickly and effectively to a fire when the sprinkler lines were suspended from cables as much as 17' below the fabric roof.

The roof structure, with its Teflon® coated fiberglass construction, made conventional pipe hangers impossible. The only practical manner to support the sprinkler system was from the suspension cables which were an integral part of the overall building design.

This innovative design called for an innovative technology, which was met by the use of Grinnell's Model F931 Quick Response attachment. This sprinkler combines the time-tested Duraspred Sprinkler with an additional heat detection device sensitive to a temperature rate of rise at 20°F per second.

The Quick Response device attaches in a matter of seconds to a Duraspred solder-type sprinkler. Thus, standard pendent sprinklers as well as horizontal sidewall models were available for use in this overall design.

This unique fast-acting sprinkler attachment, listed by Underwriters Laboratories, proved its capabilities in a test program witnessed by the owner’s representatives and representatives of the insurance authorities.

Not only did the sprinkler attachment prove to be effective in the laboratory test, but it also demonstrated the flexibility needed to adapt to the demands of the structure’s unconventional roof lines.

When it comes to sprinkler designs from the traditional to the avant-garde, Grinnell has the technology to provide sprinkler protection to match your most demanding design requirements.

For additional information, please write:
Grinnell Fire Protection Systems Co., Inc.
10 Dorrance St.
Providence, R.I. 02903

*TM DuPont Co.
that provides both functional and general specifications. Printronix.

Circle 217 on reader service card

Other products

Motifs high intensity discharge (HID) lighting is made up of four styles: a round pendant with a choice of mounting styles; a 6-ft-high cylinder; a square pendant; and a 20-in.-high cabinet-mounted cylinder. Motifs project light to the ceiling for visually comfortable indirect illumination. Gardco Lighting, Gardco Manufacturing, Inc.

Circle 106 on reader service card

Redwood lighting and site furnishings include wall-mounted, post-mounted, and bollard lighting in several heights and styles. Site furnishings are benches, planters, and litter receptacles. All are constructed of laminated, kiln-dried California redwood, which is naturally resistant to decay and insect attack. The wood is treated with a clear water repellent to prolong its life further. Columbia Cascade Timber Co.

Circle 107 on reader service card

Floor and deck lights in panels consist of two-way reinforced concrete grids with approximately 6-in-square openings for glass. Panels are available factory finished and completely glazed, or they can be formed over openings at the building site. Shown is an installation at the Tri-State Office Building (P/A, June 1980, p. 88). Circle Redmont Corp.

Circle 105 on reader service card

Adhesive #54 adheres to a wide variety of surfaces, such as rubber, urethane vinyl, metal, concrete, and wood. It can be used on flooring, roofing, and mechanically reinforced seams, where adhesion is more important than strength. The one-component product is easy to handle and has an open life of at least two hours. According to the manufacturer, Adhesive #54 resists loss of adhesion after exposure to high humidity, water, and thermal cycling.

Synthetic Surfaces.

Circle 110 on reader service card

Thermal-door upward rolling door is insulated with ¾-in. rigid polyurethane foam between galvanized steel layers to conserve energy. The door has a U-value of .2. All sides are weather-stripped to provide added thermal protection. The “Thermal-door” can be used in interior locations, as well as large exterior openings, to reduce air flow into air-conditioned spaces. Atlas Door Corp.

Circle 111 on reader service card

Gemini® appliqué films have two pressure-sensitive sheets on a single release liner, allowing the user to make two printed appliqués from a single unit. The sheets feed easily in all plain-paper copiers, according to the manufacturer, and save approximately 25 percent of the cost of regular appliqué film. Stanpat Products, Inc.

Circle 109 on reader service card

Just like no hinge at all

The hinge that hides

Now you see it. Now you don't!

Choose from 18 models and four finishes. All models open 180° and disappear when closed. Complete specifications are in Sweet's “Or” write to MPG Co., Div. of Core Industries Inc., 1 Coreway Dr., Pioneer, OH 43554. Ph: 419/737-2324.
Belgium linen wallcoverings in the CrofterCraft III collection have a Class A flame spread rating in accordance with the ASTM E-84 Tunnel Test. The natural linen wallcoverings are available paper-backed, in widths ranging from 4 to 54 in., for installation horizontally, vertically, or diagonally. CrofterCraft.

Circa 112 on reader service card

landscape and street furniture is made up of precast concrete components that can be combined to form coordinated planters, benches, light standards, waste containers, bicycle racks, drinking fountains, and other accessories. The basic horizontal module is 4" x 24" which corresponds to an existing paving stone module. Heights are 31/2 in., 15 in., and 30 in. Ambiant Systems.

Circa 113 on reader service card

Exspansystem® is an exhibit display system of chrome steel components, PVC structural connectors, and lightweight panels. The panels are easily assembled without tools, reducing set-up and disassembly time. Panels are 40" x 30" and are offered in a variety of coverings. Accessories include light bars, rear projection screen panels, and a triangular table top. A molded storage/shipping case is included. Group Three.

Circa 114 on reader service card

AttendB wall system for office noise control consists of fabric-covered panels and connecting splines. Based on a mineral-fiber board substrate, the panels have a .60 NRC rating. Covering is available in four earth tones. Panels can be installed in new construction directly on studs or gypsum board; in renovation, on existing walls. The panels have a Class 25 flame spread rating and an R-value of two. Conwed Corp.

Circa 115 on reader service card

Other literature

Enviro-Light II outdoor tennis court lighting consists of luminaires of all-aluminum construction, complete with 400- or 1000-watt metal halide lamp. Lenses are 3/16-in. tempered glass in an aluminum frame. Four-page brochure describes and illustrates the lighting and shows layouts for single and double courts. Suggested specifications are included. Elasco Lighting Products, Inc.

Circa 219 on reader service card

Steel lockers brochure includes acoustically treated, standard, and expanded metal styles. There are single-, double-, and triple-tier models and basket types. Installation details, locks, and hardware are shown. Suggested specifications for the three basic styles are included. Republic Steel, Industrial Products Div.

Circa 221 on reader service card

[Literature continued on page 122]
**Literature continued from page 121**

**Vinaxflex strip doors** brochure describes flexible strip doors that the manufacturer says can provide energy savings of as much as 50 percent. Elimination of swing doors reduces maintenance costs. The strip doors can be used as environmental separations, for outside doors, and for walk-in freezers and refrigerators. Cool Curtain, Inc.

*Circle 222 on reader service card*

**Built-up roofing** specifications brochure covers cold process, hot process, and membrane waterproofing. It discusses application methods for the different types of decks, using both hot and cold processes, and reroofing procedures. Flashing detail drawings and descriptions are included. The Flintkote Co.

*Circle 223 on reader service card*

**Precast concrete components** shown and described in a six-page brochure include roof slabs, tongue-and-groove floor and roof planks, and structural units such as columns and beams. Insulation, U-factors, acoustic data, and load tables are provided. Also shown are mausoleum crypts made up of modular, interlocking units. DUWE Precast Concrete Products, Inc.

*Circle 224 on reader service card*

**Plumbing fixtures and fittings.** Full-color, large-format, 12-page brochure illustrates several styles of bathroom, powder room, and kitchen plumbing fixtures some of which are shown in typical settings. Fittings included are washerless styles, both single-lever and double-handle types. Chart shows choice of standard and premium colors available for fixtures. American-Standard, Inc.

*Circle 225 on reader service card*

**Lighting for the 80s; making less do more,** is a 24-page catalog featuring design specifications for SPI lighting fixtures. New models and design changes are included. Freestanding units, task lighting, fixed lighting, and mounting accessories are offered. McGraw-Edison Co., Area Lighting Div.

*Circle 226 on reader service card*

**The Borning Bed for hospitals** is used in family-centered maternity care. It allows the mother to remain in one room throughout the hospital stay. It serves functions of labor bed, birthing chair, delivery table, and post-partum bed eliminating the need to transfer a patient from room to room. It is fully powered and UL listed, according to the manufacturer. A six-page brochure describes the bed and shows its various positions. The Borning Corp.

*Circle 227 on reader service card*

**The IM Sign System** of over 75 modular components offers a wide variety of holder sizes and replaceable inserts with radius or square corners. For catalog showing features available, write on professional letterhead to: APCG Graphics, Inc., 1876 DeFoor Ave., NW Building D, Atlanta, Ga 30318.

**Hardwood floors** shown in a 16-page full-color brochure include planks of laminated or solid oak and several parquet patterns of solid or laminated oak and solid teak. Descriptions include
izes, colors, finishes, subflooring, and installation methods. Bruce Hardwood Floors, Circle 229 on reader service card

'Verifiable roof expansion joints' are described in a four-page brochure. Installation instructions are included, along with detail drawings of roof-to-valley and roof-to-method of mounting. Data tables of physical properties and long- and short-term specifications are provided. Nervastral Waterproofing Products, Rubber & Plastics Compound Co., Inc., Circle 230 on reader service card

Heavy-duty SS-40 fence pipe, triple coated for longer life, is said to have greater strength and greater resistance to corrosion than Schedule 40 pipe. The cold-rolled steel pipe has a first coating of hot-dipped zinc, then a zinc chromate protective layer. A final clear thermoplastic polyurethane coating is electrostatically applied. The pipe is described in a four-page brochure, which includes graphs of salt spray tests and bending strength comparison. Specifications are also provided. Allied Tube & Conduit, Circle 231 on reader service card

Washerless faucets for kitchen and bath are shown and described in a 20-page, full-color brochure. There are single- and two-handle faucets. Finishes are chrome plating, gold plating, satin gold, and antique brass. Several types of showerheads are shown, along with special purpose faucets. Delta Faucet Co., Circle 232 on reader service card

Skylights and heat and smoke vents, used as part of energy-efficient design, are shown in a 20-page brochure. There are custom, standard, structural, and curb-mounted skylights and automatic heat and smoke vents. Detail drawings illustrate methods of installation. Charts show sizes available, and product specifications are provided. Plastico, Inc., Circle 233 on reader service card

The Garden Door®, a patio door, combines the natural insulating qualities of wood with 3/8-in. tempered insulating glass. Doors are treated with a wood stabilizing agent and sealant for low maintenance cost. Four-page brochure illustrates the door, discusses features and options, and provides specifications. Horizontal and vertical section details are included. Temple Products, Inc., Circle 234 on reader service card

Cedar siding and roofing of individual shakes and shingles bonded to a wood backing is more quickly installed and more economical than applying separate shakes and shingles. Both roofing and siding come in 8-ft lengths. A four-page brochure discusses the advantages of using panels, illustrates typical installations, and shows fancy cuts available. Suggested specifications and a selector chart are included. Shakertown Corp., Circle 235 on reader service card

Building materials

Major materials suppliers for buildings that are featured this month, as they were furnished by the architects.

The 10 Essentials for getting the most for your ice rink investment.

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Circle No. 332 on Reader Service Card

Materials continued from page 123


When a CO-RAY-VAC Heating System goes up, watch heating costs go down as much as 50%!

Developed in 1963, Co-Ray-Vac is a fully vented, low intensity infrared heating system. It is used primarily for new or retrofit installations in industrial or commercial buildings.

Low Intensity Unlike glowing red "high intensity" infrared heaters, our system is a series of enclosed burners connected by radiant tubes or pipes. This unique design efficiently heats not only large areas like factories and airplane hangars but also offices, stores and restaurants.

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Fully Vented All products of combustion vented outside of building. Saves fuel because extra ventilation to expel condensation caused by combustion is not needed.

Ask the Man Who Owns One Write or phone for information and names of users in your area.

Circle No. 349 on Reader Service Card
Miami and Miami Beach will be the subjects of an examination of urban development and its control—tarting from basic economic and political factors, through planning policy, to proposals for building and preservation.

Two industrial buildings in England by Farrell/Grahame will be presented, with a discussion of the firm's high-tech, plug-in structural systems.

Housing in Vancouver's ambitious False Creek development will be reviewed. One among several parcels designed by local firms, the portion by Downs/Archambault shows response to user needs in both planning and imagery.

These are just some of the varied contents in P/A's August issue.

/A in September will be a special theme issue on the subject of International Interior Design.

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16 Solar Energy Utilization
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