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June 1982

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90

96



Cover: Portion of glazed floor tile in corridor, California State Capitol (p. 80). Photo: Marvin Rand.

7 Editorial: Being there

Architectural design

65 Garden gateways

The downtown YWCA in Houston by Taft Architects, cited in the 27th P/A Awards program, includes office space and recreation pavilions. There is a critique by Barbara Goldstein.

72 Industrialized expressionism

A community center by Gottfried Böhm, with a remarkable auditorium, plays an important urban role in a small town in West Germany.

76 Mainly on the plain

The interior of the Banque Bruxelles Lambert in Lausanne, Switzerland, by Emilio Ambasz, trades on illusions.

80 The order and the awe

A superb restoration of the State Capitol, Sacramento, Ca, has been effected by Welton Becket Associates.

90 Thomson's Glasgow

Alexander Thomson, relatively unknown outside his native city, may have influenced the work of Charles Rennie Mackintosh and others. Malcolm Holzman

96 A high down under

The house John Andrews designed for himself combines traditional forms, prefabricating techniques, and energy efficiency. Jennifer Taylor

Technics

109 Energy design of office buildings

The second in the energy-conscious design series focuses on the contribution to the research by the teams who redesigned office buildings.

Departments

- 10 Views
- 21 News report
- 27 Perspective
- 32 In progress
- 48 Calendar
- 116 It's the law
- 119 Books
- 125 P/A in July
- 131 **Products and literature**
- 138 Building materials
- 142 Job mart
- 152 **Directory of advertisers**
- 155 Reader service card Loose subscription card in **U.S. and Canadian issues**

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2

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Being there

The printed page or the projected slide can never duplicate an actual visit to a building, but both experiences are valuable, and comparing them can help us in perceiving architecture. This is the season when more of us, for one reason or another, are likely to travel—to see places we have "only" read about or heard about. I say "only" in quotes because the appreciation of architecture requires considerable background—background that too few non-architects ever acquire.

There is hardly a building so autonomous in concept that its impact is not radically altered by setting and circumstance. The cool abstraction of Palladio's Villa Rotonda, for instance, is as detached from its specific setting as any design can be; it could be-and has been-transferred to many different places, but no visitor to it could forget how it stands on its gentle hill in a domesticated landscape that can properly be called "pretty." Bramante clearly gave little thought to surroundings when he conceived the pure architecture of his Tempietto-so your books and teachers have ignored them-yet its purity is greatly enhanced by the sweeping panorama of Rome just outside its cloister gate. More conscious is the relation between concept and setting in the Zen gardens of Japan, where austere compositions of stones and sand are seen against backdrops of burgeoning, variegated forest.

An endlessly cited failing of Modern architecture is its insensitivity to setting and to users. That is all too true of run-of-the-mill Modern, but it may be even more typical of run-of-the-mill Beaux-Arts. Of the Modern masters, only Mies called for universal solutions; in fact, however, some of his best works are adjusted with remarkable subtlety to the specifics of their sites. Consider how well his Seagram's Building in New York and his museum in Houston (in both phases) related to streets and grades and to fine existing structures. Kahn, of course, was teaching inflection to the site some 20 years ago, and his Salk Labs are a superb marriage of site and structure. Also in the 1960s, Roche and Dinkeloo designed their museum in Oakland, a brilliant contribution to its context that would be meaningless in isolation.

Enough fond recollections. The point is that architecture may or may not respond to the specifics of its setting, and that either way experience of the real thing is conditioned by landscape, atmosphere, people, cars, birds or planes, squirrels or iguanas.

What should we do in print—what can we do—to acknowledge the circumstances of real life that surround and permeate the buildings we publish. Our sole aim—it must be said—is not to simulate the experience of being there. We have other, complementary objectives, of particular importance to our audience: to explain the objectives of the building and the thinking behind the design—both the intellectual concepts and the technical devices.

Then we try to communicate some of the sense of actually being on site.

We talk often—among ourselves and with photographers—about including *context* and *people* in our visual coverage. But we have a hard time getting context photos that mean anything. A picture looking down a street is nothing like actually moving along it; often site plans or high-level photos convey more about the setting. Similarly, people in photos are just not like live users; they cover up features you want to see and they don't move on; nor can you move to see around them. Hence the architectural convention of the scale figure, the person who will patiently and inconspicuously stand in for users. (What else are partners for?)

Often it works best in explaining a building visually to use some pictures with activity and others for concept and detail. Note in this issue, for instance, the deliberate use of photos with and without cars on pages 66–67, with and without people on page 69. (Yes, a few more scale figures would have helped.)

And then, of course, we have words. The text gives us an opportunity to relate the reality of being there to the drawings and photos, since our articles are almost invariably written by people who have been there. That takes skill, and our success at it is uneven. The underlying concept and the realities of execution must be covered and are easy to dwell on; subjective questions of acoustics and comfort and user convenience are harder to determine and subject to change with time—and from one observer to another—so writers are tempted to touch on them only lightly.

Is technology the answer? Will we some day communicate about buildings on video tape? What will all those little dots do for detail? (At least the dots on photo reproductions don't blink.) But no technology can convey the coolness of stone or the hush of carpet.

We can never close the gaps between the concept and the executed building or between that reality and its communication through media. The better we understand these differences, the better we can interpret the various ways of experiencing architecture.

John Maris Dife









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Views

Energy consciousness raised

In my humble opinion, this year's is clearly the best of the special energy issues (P/A, April 1982). It is informative, exceptionally well presented and loaded with super graphics illustrating design concepts. It's a significant resource and I'm sure will be the most dog-eared copy in most firms' libraries.

John Hart Cable, AIA The Ehrenkrantz Group Washington, DC

Environment-conscious design?

Dramatic, yes; sensitively sited, conceptually sound, no. These first impressions of the South Central Bell building illustrated in the April issue of P/A (pp. 162-166) spark my following comments regarding the structure, the environment, and your glowing review.

The structure, "sensitively sited" by splitting a pond, by extensive grading for access, for parking, and to provide for improvements to maintain the water level, neither bridges nor dams the pond in a consistent manner. The image of dam is falsified by the illusion that water sweeps below the top-heavy structure and by the fact of connection, by tunnel, of the two bodies of water. Bridging does not appear to be accomplished by structure or function. The only accomplishment seems to be the splitting of the pond into a sunny side and a shady side. The image created is one of man's dominance over nature, not one of harmony or sensitivity. Perhaps your review should talk about interesting sculpting (manipulation) rather than sensitive siting. Perhaps this was not the place to "tuck away" 450,000 sq ft of building and 1500 parking spaces.

Frequently, an architect's desire for dramatic siting to compliment a structure and a developer's search for an inexpensive site with minimal development restrictions cause the loss of significant natural features, the loss of farmland, and poor cost-effectiveness for public services and utilities stretched thin to support urban uses in rural and suburban settings. In the case of the South Central Bell building, your review fails to consider the energy or human implications of these issues.

These "first impressions" aside, I applaud your April issue on energyconscious design, a subject I thought we might ignore this year. Robert Galante Design Review Planner Portland, Or

Correction

The names of Ray Reilly and Santiago Moreno, which appeared in the list of researchers for the April Energyconscious design series, were misspelled. P/A regrets the error.

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Jury for the 30th P/A Awards Architectural design: George Baird, architect, urban designer, author, Editor of Trace, Toronto; Alan Chimacoff, architect, Associate Professor of Architecture, Princeton University, Princeton, NJ; Mark Mack, architect, Batey & Mack, San Francisco, and lecturer, University of California, Berkeley, and Editor of Archetype: James Stirling, Hon. FAIA, James Stirling Michael Wilford & Associates, London; Urban design and planning: Stanton Eckstut, AIA, partner, Cooper Eckstut Associates, New York, and Director, Columbia University Urban Design Program; John M. Woodbridge, FAIA, architect and urban design consultant, Berkeley, CA; Research: Sandra Howell, PhD, MPH, Associate Professor of Behavioral Science, Department of Architecture, MIT, Cambridge; Marietta Millet, lighting consultant and Associate Professor of Architecture, University of Washington, Seattle.

Judging will take place in Stamford, CT, during September 1982. 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 1983, and winning entries will be featured in the January 1983 P/A. Recognition will be extended to clients, as well as professionals responsible. P/A will arrange for coverage of winning entries in national and local press.

Eligibility

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

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the end of 1983. Feasibility and implementation strategy should be documented. 6 Research entries may include only reports accepted by the client for implementation before the end of 1983. Submissions may deal with programming, design guidelines, technical problems, or user response and should yield information applicable beyond a single project. Research methodology and ways of disseminating findings should be documented.

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8 If the submission should win, the entrant agrees to make available further information, original drawings, or models, as necessary, for publication in the January 1983 P/A. The entrant will also provide appropriate slides for the presentation ceremony and reproducible graphic material for press releases.

9 In the case of architectural design entries only, the entrant agrees to give P/A the first opportunity among architectural magazines for feature publication of any winning project upon completion.

Submission requirements

10 Each submission must be firmly bound in a binder no larger than $13'' \ge 17''$. Binders $9'' \ge 11''$ are preferred. No fold-out sheets.

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

14 For purposes of jury procedure only, please identify each entry as one of the following: Education, Housing (Single-family), Housing (Multiple-unit), Commercial, Industrial, Governmental, Cultural, Recreational, Religious, Health, Planning and/or Urban Design, Applied Research. Mixed-use entries should be classified by the larger function. If unable to classify, enter Miscellaneous.
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15 Entry fee of \$40 must accompany each submission, inserted into *unsealed* envelope containing entry form (see 13 above). Make check or money order (no cash, please) payable to *Progressive Architecture*.

16 To maintain anonymity, no identification of the entrant may appear on any part of the submission, except on entry form. Credits may be concealed by any simple means. Identity and location of projects should *not* be concealed. P/A will seal stub of entry form in envelope before judging.

17 Deadline for mailing is August 31. Other methods of delivery are acceptable. In any case, entries must show postmark or other evidence of being en route by deadline using means to assure delivery by September 15. Hand-delivered entries must be received at the address shown here by August 31.

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Pencil points

Rossi in Baltimore

The city of Baltimore has asked Italian architect Aldo Rossi to design a monument to its former mayor, Thomas D'Alesandro, Jr. ¶ The monument, a clock tower, will be located in central Baltimore.

DC commission

Eisenman/Robertson are designing an office building/hotel on Pennsylvania Avenue adjacent to the Apex Liquor building (the latter's Hartman-Cox renovation is on).

Moore, M&S compete at Capistrano

Charles Moore's Santa Monica office and Machado-Silvetti Associates, Inc., of Boston have competed for the design of a 300room hotel convention complex in San Juan Capistrano, Ca (where a Michael Graves-designed library is now going out for bids). Winner

Winner gets to design the main hotel.
¶ Runner-up will design a second 100-room hotel.

Botta in France

Ticino architect Mario Botta has won a competition to design a cultural center in Chambéry, France. The project involves new building and renovation.

Calvin, Barragán flying down to Rio Mexican architect Luis Barragán is designing two boutiques for Calvin Klein jeans in Rio de Janiero.

Der, Playboy

Architect Der Scutt has a peach of a job in New York.

¶ He will be redesigning the Playboy Club in central Manhattan.

Papa Johnson steps down slightly

Johnson/Burgee Architects is now known as John Burgee Architect (Philip Johnson, Consultant).

Neo-cubist village

Observers call it cubist. John Burgee calls it "a village concept."

¶ 'It' is a 2-million-sq-ft office development by Burgee in the Fort Hill area of Boston (near South Station).

¶ The village/cubist descriptions refer to the method of breaking the façades of the two huge towers into geometric shapes to sympathize with the 'village' scale of the city.

From conceptual to real

Michael McCoy's folding chair design, selected by P/A's first furniture competition jury (P/A, May 1981), is on its way to being realized.

¶ A prototype has been funded by Knoll, and a limited edition is under negotiation.

Pratt dean

Professor Paul Heyer, a member of the faculty at Pratt Institute for 15 years, has been appointed Dean of the School of Architecture of Pratt Institute in Brooklyn, NY. [Pencil points continued on page 37]

PA News report







Roche: Pritzker reaffirms the mainstream

The fourth recipient of the annual international Pritzker Architecture Prize for 1982 is again an American architect. Kevin Roche, 60, principal in the firm Kevin Roche-John Dinkeloo Associates of Hamden, Ct, is the latest to collect the \$100,000 award from Jay A. Pritzker, president of the Hyatt Foundation, which administers and funds the prize, at a press conference in New York's Whitney Museum. A formal banquet held in May in Chicago's Art Institute completes the ceremonies, at which Roche will be presented with a spe-



Roche (above) and his Wesleyan University Creative Arts Center, 1973 (top), General Foods headquarters under construction (middle), and Oakland Museum, 1968 (left above).

cially created Henry Moore sculpture.

The field of nominations involving some 200 architects from 50 countries was reviewed by Arthur Drexler, director of the Department of Architecture and Design of The Museum of Modern Art. Roche is an interesting choice in that he represents a conscious selection

from the architectural mainstream, in contrast with the more individualistic practices of previous winners: England's James Stirling (1981), Mexico's Luis Barragán (1980) and the senior American architect, Philip Johnson (1979), who now serves on the jury as the Prize Laureate. The sheer professionalism represented in the selection of Roche was further underscored by the jury's statement emphasizing ". . . the artistic merit of a substantial body of built work. It is given for built architecture, and not for drawings, proposals, theories, or writings on architecture. It is given for architecture as art.

Roche, a native of Ireland who received his degree from the National University of Ireland, immigrated to the United States in 1948, becoming a citizen in 1964. After graduate work at IIT, Roche joined the firm of Eero Saarinen Associates of Bloomfield Hills, Mi, in 1950, the same year as his future partner, the late John Dinkeloo. With Saarinen's death in 1961 on the eve of the office's relocation to Hamden, Roche and Dinkeloo assumed responsibility for completion of ten major buildings. In 1966, they formed their own firm, which in turn received the Architectural Firm Award of the American Institute of Architects in 1974. The Saarinen connection can also be noted in the Pritzker jury. Philip Johnson was a contemporary and friend, J. Irwin Miller a friend and patron (who also gave commissions to Roche's office), Cesar Pelli worked for Saarinen, and Thomas J. Watson, Jr., of IBM has a building in his name by Saarinen. Like Saarinen in the 1950s and early 1960s, Roche-Dinkeloo in the 1970s has clearly reflected its client structure of America's major institutions, its design direction defining the forward edge of mainstream practice. By the choice of Kevin Roche, the Pritzker jury reaffirms the qualities of the normative.

Kevin Roche has announced his intention to use the prize as the basis for an endowment establishing an Eero Saarinen Chair at Yale University. [Peter C. Papademetriou]

New P/A roles for Morton and Murphy

Two senior members of the P/A Editorial staff, each with over 10 years experience at the magazine, have assumed new responsibilities.

James A. Murphy, AIA, has been appointed to the new position of Profession and Industry Editor. While continuing to write articles and contribute to editorial policy decisions, he will extend his liaison activities with design professionals and building materials producers.

David Morton has been promoted to the position of Executive Editor. He will supervise the activities of the writing editors, assuming review and approval authority over all editorial contents.







Brownstone renovation, NY, 1969, Edelman and Salzman (top). Pepsi Cola Bottling Co., NY, 1955, SOM: Natalie de Blois, project designer (middle). Drawing, 1928, by Margaret van Pelt Vilas (above).

Women at Columbia: A Century of Change

University's architecture Columbia school, founded in 1881, graduated its first woman, Marcia Mead, in 1913. Her solo practice as a designer of houses, tenements, and entire communities establishes an impressive precedent for subsequent graduates. Although women maintain a disturbingly low status within the architectural profession, their numbers and contributions are increasing.

A recent exhibition and symposium at Columbia documenting these achieve-ments formed part of the 100th anniversary celebrations of the University's Graduate School of Architecture and Planning. Other events included a major exhibition of alumni and faculty work held at the National Academy of Design, with fascinating material if rather awkward organization; an impressive publication called, like the exhibit, The Making of an Architect; special lecture series; and a Beaux-Arts Ball.

The exhibition of alumnae projects represented a cross section of work from each era of the school. Despite a low budget, its well-designed format and chronological organization clearly revealed the diversity of approaches to design and practice.

The show's most dramatic achievement was the documentation of the history of women within the school. A time line juxtaposing the names of women graduates to each graduating class revealed startling statistics: an average of one woman graduated each year until 1943; and women students during the 1920s and 1930s, admitted under a quota system (maximum: 10), were relegated to a "hen-pen" within the studio. Only since the mid-1970s have women been graduating from Columbia and other architectural schools in significant numbers, although they still comprise only about 7 percent of the profession and still maintain a low profile: They execute few large-scale commissions,

but receive a preponderance of residential work.

Despite these grim statistics, Columbia's alumnae represent many of today's most successful architects. Among the outstanding work in the exhibition were buildings by Natalie de Blois, project architect of SOM's top-level work of the 1950s and 1960s; Norma Sklarek, vice president of Welton Becket, Los Angeles, and the first black woman licensed in New York and California; Judith Edelman, designer of many important New York public housing projects; and Laurinda Spear of the innovative Miami firm Arquitectonica. Other highlights in the show included a fine Beaux-Arts rendering by student Margaret van Pelt Vilas, 1928 winner of the Henry Adams prize, and Columbia student entries to the Les Halles competition.

May this recognition of Columbia's past inspire future alumnae towards the achievement of "true equality," in the words of curator Cynthia Rock, "where we are perceived as 'architect' unmod-ified by 'woman.'" [Deborah Dietsch]

Deborah Dietsch, an alumna of Columbia University's Graduate School of Architecture and Planning, is the editor of the GSAP's 1981 publication Précis.

Telecommunication over lunch

Ball State University's architecture school has devised a novel way to use student lunch gatherings, telephone conference technology, and the willingness of busy professionals to interrupt a work day to take a call. "Lunchline," a brainchild of faculty-member Linda Nelson and others at Ball State, has attracted the participation of architecture notables the world over and is an effective method for augmenting the more expensive guest lecture routine.

We can show slides as the students and interviewee talk," says Nelson, "and the advance research done has become quite substantial." The calls are scheduled well in advance and typically involve gatherings of 10 to 25 students. The arrangements and mediation during the call are handled by a "telecommunications attaché.'

The list of persons who have been "on Lunchline" (it is referred to as a sort of radio talk-show format) reads like a who's who in architecture, but also includes less well known but interesting practitioners. "It gives the students insight into the lives of professionals," says Nelson, who reported that several students have followed the conference calls with personal visits (at the interviewee's invitation, during the call), and one or two have landed jobs as a result.

She reported that the calls have ranged from a noonhour private "tour" of William Caudill's residence-done with slides sent prior to the call-to a conversation with an Australian architect for whom the hour was nearer midnight than noon, and included P/A editor John Dixon in May. [Thomas Vonier]



I.S.: Out from under the rug

Several hundred people crowded into Harvard University's Graduate School of Design for a conference on "The International Style in Perspective: 1932-1982," held April 16-17. The conference, organized by associate professor of architecture David Handlin and sponsored by a grant from Knoll International, marked the 50th anniversary of the exhibition, "Modern Architec-ture: International Exhibition," organized at the Museum of Modern Art by Philip Johnson and Henry-Russell Hitchcock. Although Hitchcock could not attend the conference, Johnson was there, as was Lewis Mumford, who organized the show's section on housing. Panelists included Arthur Drexler. Richard Meier, Joseph Rykwert, Helen Searing, William Hewitt, Éduard Sekler, Peter Smithson, Bruno Zevi, Thomas Beeby, Alan Colquhoun, Peter Eisenman, and Paul Rudolph.

In the first of the six papers presented, Handlin characterized U.S. architectural discussions of the International Style as a battle between humanism and the materialistic "new mechanism," thoroughly developing the latter's European sources while omitting discussion of its development in Europe or its relation to its American counterpart. Kurt Forster of Stanford accused Johnson and Hitchcock of examining, in both the show and the book that followed it, only the most superficial correspondence between European and American Modernism, and developing a "freeze-frame" view of the fragmented European scene of the late 1920s-and an ahistorical view of Modern architecture

Columbia professor Rosemarie Bletter's well-received paper discussed avant-garde versus conservative criticism of the I.S., admonishing the audience not to confuse social issues with formal ones. Robert A.M. Stern followed with a survey of the style's American offspring. Princeton's Anthony





Lewis Mumford, Philip Johnson (top). Anthony Vidler, Neil Levine (middle). David Handlin, Robert Stern, Henry Cobb (above).

Vidler delivered an uncharacteristically rambling paper on Le Corbusier, inviting French Classicism and Nietzsche along for the ride. And last but most, Harvard's Neil Levine spoke on Frank Lloyd Wright, going beyond research and bypassing tiresome polemics, to offer interpretation, insight, and provocative speculation in his discussion of the shifts between literal figuration and abstraction in Wright's work and their relationship to similar shifts in the work of Picasso. Levine reminded us that Modernism does not always equal abstraction, and vice versa. The final panel discussion was marred by tantrums from Institute for Architecture and Urban Studies regulars, but long before the end of the proceedings, Johnson had already had the last word: We decided to sweep everything under the rug, to make an effect. That we did so is proven by our being here 50 years later to talk about it." [PV]



An overall view of the school from the southeast, showing the earth berming, the long Trombe wall and clerestory windows used in combination with two long interior concrete masonry thermal storage walls.



A floor plan of the school. Colored areas indicate the location of the concrete masonry thermal storage walls.

A view along one of the axial corridors showing the clerestory windows and the solid concrete masonry heat storage wall.



WINDY HILLS ELEMENTARY SCHOOL KEARNEY, NEBRASKA

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Concrete masonry passive solar school in Nebraska, designed to cut energy costs by one third.

Energy saving concrete block walls at work throughout.

Earth berming part of design.

"I believe that a designer can observe and respect some fundamental principles of nature and then enjoy a new direction in architecture..."

This statement from Architect Bonge comes to full reality in his Windy Hills School in Kearney, Nebraska, aptly named by its students for its high, windswept location.

The design combines loadbearing concrete masonry construction, earth berming, and passive solar heating with a Trombe wall and clerestory windows.



Lynn Bonge, Architect



A view of the school from the south showing the 160' Trombe wall.

Classrooms are located directly adjacent to this wall.



Loadbearing concrete masonry is employed throughout the structure.

A concrete masonry Trombe wall on the south face running approximately 160' forms the primary passive solar heating system. This long wall is built of 18" fully grouted concrete masonry. Other concrete masonry walls in the axial corridors of the school store heat gained through clerestory windows.

It is expected that solar energy will provide about one third of heating needed for this 23,000 sq. ft. structure.



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The classroom side of the Trombe wall, showing vents, through which solar heated air enters the room.



Detail of the Trombe wall from the outside. Manually operated windows can be opened if necessary. This picture shows the class room ventilators which are opened or closed automatically by thermostats, and the black painted concrete masonry Trombe wall.

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Perspectives

Hawaii: A collage

Hawaii: the name alone evokes palmenshrouded visions of blue-skied tropical paradise, a Möbius strip of endless summer, a pleasure for the lingering moment. Yet somewhere in the recesses of the mind such images of surf and sand trip over rumors of intense development, of concrete cancerously piled on top of concrete to accommodate the approximately four million visitors who flock to the Islands each year. The 5000-8000 people who will attend the AIA's National Convention in Honolulu during the week of June 6-10, 1982, will discover that Hawaii embodies their best and worst preconceptions, but offers much more.

The immediate experience reinforces, yet peels away, popular viewpoints to reveal a land which in the past 20 years has moved away from an agricultural, plantation-based society and into the whirl of international finance and development. Combine such a change with the benevolent climate, a multiethnic population in which no majority exists, as well as a longstanding history as the oldest major American outpost west of the Rockies (having established itself as a missionary and whaling center at least 20 years before the California Gold Rush), and an entrancing pastiche emerges.

Early landmarks, recent achievements

Although intense development has occurred and continues to occur in Honolulu (over a billion dollars worth of new construction now is going up in the business district alone), an amazingly large segment of the past stands fast, with a considerable amount of rehabilitation work happening, especially in and near the Chinatown Historic District. Throughout the city, earlier elements of the built environment dramatically juxtapose themselves with the more recent architectural accretions.

Over the past eight decades the Islands have received the works of important American architects, as well as those of local talents. From the past, Bertram Goodhue's Honolulu Academy of Arts, Ralph Adams Cram's Central Union [News report continued on page 28]

House in Diamond Head (top). Downtown Honolulu, Iolani Palace grounds in foreground (middle), State Capitol building (bottom).











News report continued from page 27

Church, Julia Morgan's YWCA, Warren & Wetmore's Royal Hawaiian Hotel. and York & Sawyer's Hawaiian Electric Building still impart dignity to their streetscapes. Similarly, such local creations as Hart Wood's First Church of Christ Scientist, Board of Water Supply Building, and Chinese Christian Church; C.W. Dickey's Alexander & Baldwin Building, Waikiki III Theater (notably the interior), and Immigration Station; Claude Stiehl's Church of the Crossroads; Emory & Webb's Honpa Hongwanji Mission; and Hego Fuchino's Makiki Christian Church add a new dimension to the Beaux-Arts tradition with their frank acknowledgment of Hawaii's tropical climate, local materials, and multicultural heritage.

In more recent years, such modern structures as I.M. Pei's East-West Center, Minoru Yamasaki's Queen Emma Gardens Apartment, John Carl Warnecke's Hawaii State Capitol, Vladimir Ossipoff's Pacific Club and Outrigger Canoe Club, Alfred Preis's Arizona Memorial, Leo S. Woe's Financial Plaza of the Pacific (the city's first high-rise office condominium), Donald Chapman's Garden Court Office Building, and Au, Cutting, Smith & Haworth's Davies-Pacific Center have taken account of the tropical environment.

Collage

These buildings represent individual achievements in Honolulu, but the dominant impression is a discordant collage of vernacular and practitioner-designed forms. Modest bungalows, cottages with "Hawaiian" hip roofs, hollow tile walk-up apartments and straightforward, single-wall houses reminiscent of the plantation stand in the shadow, and in some instances the mirrored glare, of modern highrises. The governmental section of town, with its emphasis on open green space, contrasts with the vertical tendencies of the neighboring business district. Chinatown enterprises successfully struggle to exist in a historic context in the face of development pressures. And even in Waikiki, garden apartments and single-family residences reflecting the romantic styles of the past can be found surviving amidst the glitter of the Waikiki Shopping Plaza and the flash of the Waikiki Trade Center. Time warps throughout the urban space, as Hawaiians confront a transition comparable in magnitude to the first influx of foreigners to the Islands. The cityscape reveals this conflict: It demands attention, yet tends to blur. But, with care, there is much to read. [Don Hibbard]

Don J. Hibbard is an architectural historian with the State Historic Preservation Office, Department of Land and Natural Resources, Honolulu, Hi.

[News report continued on page 32]

Waikiki 3 Theater and one of its murals (top and middle). The 1909 Lah Leong block in Honolulu's Chinatown (bottom).

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In progress

1 Hyatt/Pier 4 development plan, Boston, Ma. Master planners: Hellmuth, Obata & Kassabaum, New York; SWA Group, Boston. A \$400 million multiuse project for an 18-acre site adjacent to Pier 4 on Boston's waterfront is now in the preliminary concept stage. The proposal includes a 1000-room convention hotel, approximately 900 condominiums, retail shops, office space, and marina facilities. SOM Boston is carrying out an environmental review.

2 Alaska 1984 Encapsulation, Anchorage, Ak. Architects: Geiger Berger Associates, PC, New York: Ed Crittendon, Alaska. To celebrate Alaska's 25th anniversary as a state, an encapsulated structure has been designed to house the Alaska 1984 Exposition. After the Exposition the dome, which maintains temperature at a minimum of 45 F, will be used to enclose structures for Alaska Pacific University. The transparent dome (not translucent, like earlier Geiger Berger domes) is 1200 ft in diameter, with 120 inflated cells supported by 460-ft-long cables. These radiate from a central 300-ft-diameter tension ring supported by twelve 6-ft-diameter steel columns, to tie back anchors and a caisson foundation at the exterior. Because of the interior supporting columns, water will not collect if a cell deflates, but will drain to the exterior. The cells, encased in seven layers of film (one outer, six inner) will allow for insulation, solar gain, daytime lighting, and views. In the summer, the roof is raised: the 300-ft-diameter central cell is filled with helium and its tethering cables are played out.

3 Hood Museum of Art, Dartmouth College, Hanover, NH. Architects: Moore Grover Harper, Essex, Ct. This new museum (upper left in photo) will be part of an \$11.8 million project regrouping the arts at Dartmouth College. A newly formed small courtyard, entered via several layers of colonnades, will combine the 20-year-old Hopkins Center for the creative and performing arts, designed by the late Wallace Harrison and now to be renovated, and Wilson Hall. The latter building housed the College library early in the century and now serves as the anthropology department, and will be rehabilitated as administrative offices, film studios, and drama and television classes. The new art museum, which is to provide the strong central "presence" of the arts, consists of several rather awkwardly combined pieces.







4 The Procter & Gamble Company Corporate headquarters, Cincinnati, Oh. Architects: Kohn Pedersen Fox Associates, New York. The overall form has distinction but the façade articulation is ponderous in this new 800,000-sq-ft headquarters building facing a plaza in downtown Cincinnati. Twin octagonal towers rise from a six-story L-shaped base to a total height of 17 stories. The main entrance is via a wintergarden pavilion at the base of the towers, served by two U-shaped drives. The base has a gray granite colonnade at street level and open atriums from the fourth to the sixth floors. Exterior walls are faced in limestone at the lower levels and white marble at the upper levels, and the



towers' sloped roofs are clad in dark metal. Tinted reflective double-glazed windows are used. The new building is connected to the existing P&G building by an enclosed pedestrian bridge and an underground tunnel. Energy measures include the double glazing, heavily insulated walls, and a heat pump to recover energy from lights, equipment, and people.

[News report continued on page 48]

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DOVER ELEVATORS serve two triangles on a square in Nashville.

A broad pedestrian walkway slices diagonally through a square in downtown Nashville, leaving space for a pair of distinctive triangularshaped buildings. One building is the 20-story corporate headquarters for Commerce Union Bank—Tennessee Valley Bancorp; the other, the 12-story, 350-room Radisson Plaza Hotel. The complex is well served by a total of 18 Dover Traction and Oildraulic[®] Elevators: 11 in the bank building, 7 in the hotel. For more information on Dover Elevators, write Dover Corporation, Elevator Division, Dept. B, P. O. Box 2177, Memphis, Tennessee 38101.

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MIT chairmanship Jack Myer has been appointed chairman of the Department of Architecture at the Massachusetts Institute of Technology. Berkeley chairmanship

Berkeley chairmanship Sandy Hershon has been designated chairman of the School of Environmental Design at the University of California, Berkeley.

Pencil points continued from page 21

Art history move

Architectural historian Kurt Forster will move from the Department of Art at Stanford University in Palo Alto, Ca, to the Art History Department at MIT.

Toothless preservation ordinance

Miami Beach's square-mile historic Deco District will be endangered if its Planning Board has its way.

¶ The Board would require an owner's consent before a building be designated as a landmark.

¶ The proposal (tantamount to revocation of the district's historic designation) would take precedence over the tougher Dade County metro ordinance, if it is passed before July.

¶ A revised ordinance was presented to the city commissioners minutes before their May 5 meeting. A decision is due June 16.

Elephants, monkey business

Charles Moore may rework his Best idea and use his elephant images in Houston's central Hermann Park.

¶ An elephant gateway will emphasize the park's main axis, between the Sam Houston statue at the entrance and the ape house in the Houston Zoo.

DC's new crop

Washington's young architects (or as they call them these days, euphemistically, in New York, "emerging voices") were shown recently—too briefly, at sporadic hours—at the University of Maryland.

¶ Quality, of exhibits and work: mixed. ¶ Among the participants: Autochton (Jerry Harpole, Stephen Banigan), Joseph Boggs, R. David Schwartz, Cross & Little, Martin & Jones.

The Capitol's last wall

Plans are again percolating to extend the U.S. Capitol's West Front, the last remaining wall of the original structure. ¶ The AIA has expressed its vociferous opposition.

More government spending!

The administration is preparing to ask Congress for \$2 billion over the next five years for construction of federal buildings in the Washington, DC, area. Among the proposals:

a new \$114 million city post office;
a \$280 million renovation of the Washington Navy Yard as offices;
a new \$235 million Government Printing Office.

Arch dissatisfaction

Approved by the Fine Arts Commission, the [Pencil points continued on page 39]

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4520 Elmdale Drive Tucker, Georgia 30084 Pencil points continued from page 37

design for a U.S. Navy arch on Washington's Pennsylvania Avenue (P/A, April 1982, p. 41) has met with widespread disapproval.

The National Planning Commission, at the request of the Penn. Ave. Development Corp., has removed it from its regular agenda and will be presenting it 'unofficially.'

Great Plaza revival

The Reagan Administration has proposed spending up to \$350 million for a new federal office building complex on the Great Plaza, completing the Federal Triangle. ¶ Harry Weese, whose firm prepared the master plan for the site a couple of years ago for the GSA, is likely to be among the invited competitors for the design.

Opposition: the Joint Committee on Landmarks wants the space left open for a park.

¶ The National Capital Planning Commission is considering the issue.

Trust departures

P/A Washington correspondent Carlton Knight III, editor of Preservation News, has left the National Trust, as has Terry Morton, vice-president and publisher of Preservation Press.

Graves in Newark

Michael Graves, who prepared a master plan in 1966 for Newark Museum and who has executed several small renovations of the museum's group of buildings, will now carry out a major renovation for the museum:

¶ The adjacent five-story building is to be converted to museum use—exhibition space, offices, painting storage.

Itchy fingers

While Arata Isozaki is the architect commissioned to design the Los Angeles Museum of Contemporary Art, MoCA Architecture Committee member Coy Howard has presented drawings of how he would design it.

¶ This is only one indication of the client/ architect problems in this commission, with the Committee stressing "neutral" architecture, to Isozaki's distress.

Government competition

The Government of Fairfax County, Va, is relocating its administrative complex to a 183-acre site. Competing to design the center are

¶ Arthur Erickson Associates/Dewberry & Davis Joint Venture;

SOM Washington;

¶ Cesar Pelli/LCBW;

¶ and the Cambridge 7.

¶ Extensive research into the programming of governmental facilities was carried out by professional advisor Kent Cooper of the Cooper-Lecky Partnership.

CIA competition

A competition is being held to design a major expansion of the Central Intelligence Agency, following a master plan prepared [Pencil points continued on page 41]



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Pencil points continued from page 39|

by SOM Washington. SOM is not among the competitors, who include:

¶ VVKR, Inc./Dewberry & Davis/Everett I. Brown;

¶ CRS/Sirrine, Joint Venture; and ¶ Smith, Hinchman & Grylls Associates, Inc.

Wolf Trap lives

The \$5 million 1971 outdoor theater in Vienna, Va by Edward Knowles and John McFadyen burned to the ground in April, and fund-raising for the rebuilding of the federally owned uninsured structure started immediately.

¶ It has not been decided whether to duplicate the old structure, at an estimated $3\frac{1}{2}$ times the original cost.

¶ Temporary measure: a tentlike structure erected in the adjacent meadow will shelter this summer's performances.

Revived magazine honored

P/A Los Angeles correspondent Barbara Goldstein is being honored by the LA chapter of the AIA for having revived the magazine Arts + Architecture.

125 candles

Throughout the day and evening of April 20, the AIA Headquarters in Washington was awash in festivities marking the 125th anniversary of AIA's founding.

Among the hundreds of guests were members of the event's Honorary Board of Advisors, including Grady Clay, editor of Landscape Architecture, critic Paul Gapp of the Chicago Tribune, patron William Hewitt of Deere & Company, developer Gerald Hines, philanthropist Jay Pritzger, and a half-dozen other luminaries.

¶ Exhibits included choice photos, drawings, and documents from AIA archives, in and around an exhibition structure in the Parody Post-Modern mode.

¶ Banners on landmark Washington buildings proclaimed the 125th to the public. ¶ Awareness of the event was extended to nearby architecture schools (Howard, Catholic, and Maryland U's) through three simultaneous seminars, moderated by the editors of P/A and two other mags.

Minnesota magazine makes good

Architecture Minnesota made it into the circle of five finalists—for "overall excellence"—in this year's prestigious National Magazine Awards, a coup for a magazine of such modest resources. (P/A has been a finalist in other years and once took a prize.).

¶ This on top of a 1982 Gold Circle award in a nationwide competition among association publications. AM is published by the Minnesota Society AIA—editor, William Houseman; publisher James Cramer.

Wilshire landmark-to-be

Mitchell/Giurgola Architects have been selected to design the high-rise building for the Wilshire-Glendon intersection in LA's Westwood district. Other contenders in the interview-with-concept competition for this [Pencil points continued on page 44]

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Pencil points continued from page 41

commission were Harry Weese & Associates and Cesar Pelli & Associates. The advisory panel for the client, Indivest Inc. of Beverly Hills, included Henry Cobb of I.M. Pei & Partners and chairman at Harvard, Harvey Perloff, dean of architecture at UCLA, LA builder Clair Peck, and P/A Editor John Morris Dixon.

Travelling awards

The Skidmore, Owings & Merrill Foundation has awarded its second annual Travelling Fellowship for graduate architecture students to:

¶ Grace Kobayashi, Cornell University, \$10,000 for nine months of travel/study; ¶ Marion Weiss, Yale University, \$7500 for five months of travel/study; and ¶ Richard Metsky, Cornell, \$5000 for three months of travel/study.

Competing publicly in Portland

The Portland Performing Arts Center competition—to renovate and add to the existing Rapp & Rapp building—will be decided by a jury as well as public hearings. The finalists:

¶ Geddes Brecher Qualls & Cunningham; ¶ Johnson/Burgee Architects with James Stewart Polshek & Partners; and

¶ Barton Myers with ELS Design Group and Broome, Oringdulph, O'Toole, Rudolf & Associates.

Play ball

Softball League Après Moderne (S.L.A.M.), a New York City Architectural softball league, played its 1982 opening game at the end of April.

¶ Tom Wolfe, for once, threw out the first pitch.

¶ Teams vie for the Claes Oldenberg Big Bat Award and the Frank Lloyd Wright Field Award.





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Hynes expansion

Kallman, McKinnell & Wood have been selected to design the expansion of the John B. Hynes Veterans Auditorium, doubling its convention facilities.

¶ Perez Associates, New Orleans, will be associated for space programming.

Finally, the Barbican opens

Too expensive, too large, too out-of-theway, too ugly, and too late.

¶ Despite all of these complaints, London's Barbican Centre, containing two theaters, a concert hall/opera house, an art gallery, and library, has finally opened this spring.

New Mackintosh wing

The Hunterian Art Gallery of the University of Glasgow has completed a new Mackintosh wing (endowed, not by deaccession of the Whistler painting collection, as feared, but by the British National Oil Corporation).

¶ The wing includes two remarkable reconstructions of Mackintosh interiors, as well as posters, stained glass, and textiles by Mackintosh and Margaret MacDonald.

¶ Next year, the 1933 Mackintosh studio exhibition is to be recreated. It may travel to the U.S.

Trust awards

The California State Capitol (p. 80) has received a 1982 honor award from the National Trust for Historic Preservation. ¶ In the "capital improvements" category,

Trust awards have also been presented to the City Hall in Davenport, Ia, and the State Chamber Restoration Project in Albany, NY.

Columbia renovates

Susana Torre, with Wank Adams Slavin, is designing the renovation of Columbia University's Schermerhorn Hall, which houses the Art History and Archaeology departments.

Barnard organizes

Susana Torre will organize a new undergraduate program in architecture for Barnard College, New York, a Columbia affiliate.

More Columbia building

Cain Farrell Bell, the successor firm to McKim Mead & White, is designing a penthouse addition to Columbia University's Butler Library.

Architect Richard Dattner is redoing Columbia's Baker Field, the sports grounds located at the northern end of Manhattan. A \$3 million gift will provide a new stadium and practice fields.

Santa Ana museum addition

DMJM of L.A. is designing an addition to the Bowers Museum in Santa Ana, originally built in 1932 in California-Spanish style.

¶ Tony Lumsden is project designer. [Pencil points continued on page 48]



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Pencil points continued from page 44

Winners

The 1982 Rotch Travelling Scholarship (\$13,000 for eight months of travel) has been awarded to John M. Reimnitz of Cambridge, Ma.

¶ The 1982 Arnold W. Brunner grants, given by the New York chapter of the AIA, have been awarded to James Marston Fitch, Architectural Historian, Columbia University; Ada Karmi-Melamede, architect, Columbia University; and Michael Wurmfeld, architect, Wurmfeld Associates.

¶ The 1982 Reynolds Aluminum Prize for Architectural Students has been awarded to Wesley C. Jones of the Graduate School of Design at Harvard University, for designing a visitors' center and museum adjacent to the tombs at Gizeh.

Winners

The Henry Klein Partnership of Washington, DC, has been awarded the 1981 Louis Sullivan Award for Architecture for excellence in building design.

¶ The biannual award, which includes a prize of \$5000, is given by the International Union of Bricklayers and Allied Craftsmen to honor a practicing American or Canadian designer.

Texas chair

The O'Neil Ford Centennial Chair in Architecture has been established at the University of Texas at Austin. [SD]







Roberto Schezen photo of Villa Malaparte (top). Percy Nobbs's McGill Union (above).

Exhibits

Through June 19. Buildings on Paper: Rhode Island Architectural Drawings, 1825-1945. Brown University's Bell Gallery, Rhode Island Historical Society, and Rhode Island School of Design Museum of Art. Subsequent dates: July 13-Sept. 15, New York; Oct. 15-Jan. 3, Washington.

Through June 19. Giorgio de Chirico. Museum of Modern Art, New York.

Through June 20. The Goetheanum: Rudolf Steiner's Architectural Impulse. National Academy of Design, New York. Through June 20. San Juan Capistrano Public Library Competition Exhibition. Schindler House, 833 North King's Rd., Los Angeles.

Through June 27. "De Stijl: 1917-1931, Vision of Utopia." Hirschhorn Museum, Washington, DC.

Through June 30. Architecture, Theater: Inside an Imaginary Horizon. Rizzoli Gallery, 712 Fifth Ave., New York. Through June 30. New Chicago Architecture. Padiglione d'Arte Contemporaneo, Milan.

Through July 4. Edward H. Bennett, Architect and City Planner: 1874-1954. The Art Institute of Chicago, Michigan

and Adams, Chicago. **Through July 15.** "The Right Light" Photographs by Roberto Schezen. The Lobby, 369 Lexington Ave., New York. Through July 18. Percy Erskine Nobbs, Architect, Artist, Artisan. McCord Museum, 690 Sherbrooke St., W., Montreal.

[News report continued on page 52]



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News report continued from page 48

Through July 18. Bernini Drawings from Leipzig. Indianapolis Museum of

Art. Through July 25. International Exhibition of Architecture from the recent Venice Biennale. Pier Two, San Francisco.

Through July 30. "For the Record . . . the First 125 Years," archival exhibition of the AIA. AIA Building, 1735 New York Ave., Washington, DC

Through Aug. 15. The Indian Heritage: Court Life and Arts under Mughal Rule. Victoria and Albert Museum, London

Through Aug. 22. Mies van der Rohe: Barcelona Pavilion and Furniture Designs, Neuberger Museum. College at Purchase, NY. Also: Through June 20, Robert A.M. Stern: Modern Architecture after Modernism.

Through Sept. 30. From Village to City in Ancient India. British Museum, London.

Through Sept. 30. Barry Byrne and John Lloyd Wright: Architecture and Design. Chicago Historical Society, Clark St. at North Ave., Chicago.

Through Oct. 3. Grand Central Terminal: City Within the City. New York Historical Society, New York.

Through Dec. 27. "Preservation in Progress." An ongoing series of exhibitions and tours by architects of the South Street Seaport Museum, 203 Front St., New York.

June 9-July 5. Winners and entries selected by jurors for exhibition, Fourth Arango International Design Competition. Miami Metropolitan Museum.

June 10-11. Systems '82, Expocenter, Chicago. Contact Michael Hough, P.O. Box 11318, Newington, Ct 06111 (203)

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June 24-Oct. 10. New American Art Museums. Whitney Museum of American Art, Madison at 75th, New York.

Competitions

June 30. Registration deadline, Lafayette Square Design Competition, St. Louis. Entry deadline, Aug. 30; entry fee \$25. Contact Lafayette Square Restoration Committee, 2023 Lafayette Ave., St. Louis, Mo 63104.

July 1. Registration deadline, competition for design of 43-unit luxury residence in Hong Kong. Contact Jon A. Prescott, Office of the Professional Advisor, 2-4 Sun Ning Rd., 5th floor, Causeway Bay, Hong Kong.

July 15. Registration deadline, Riverfront Plaza Competition. Entry deadline Sept. 3. Contact Riverfront Plaza Competition, 13 West Las Olas Blvd., Fort Lauderdale, Fl 33301

Aug. 2. Entry deadline, Prestressed Concrete Institute Awards Program. Contact PCI, 201 N. Wells St., Chicago, Il 60606.

Aug. 31. Mailing date for P/A Awards

entries (see entry rules, page 15). Nov. 1. Entry deadline, Compact Home Design Competition. Contact Compact Homes, Garden Way Publishing, Charlotte, Vt 05445.

Conferences, seminars, workshops

June 28. Solar Computation Methods for Professionals, Boston Architectural Center. Contact New England Solar Energy Association, P.O. Box 541, 14 Green St., Brattleboro, Vt 05301 (802) 254-2368.

July 15-17. "Architecture and Ideals," San Francisco Center for Architecture and Urban Studies. Contact Peter Beck, Association of Collegiate Schools of Architecture, 1735 New York Ave., NW, Washington, DC 20006 (202) 785-2324. July 16-Aug. 20. Urban Studies and Architecture, Pratt Institute Summer Seminars (three lectures). Contact Prof. Livio Dimitriu, Pratt Manhattan Institute, 160 Lexington Ave., New York 11205 (212) 636-3453.

Aug. 6-8. Alvar Aalto, Second International Symposium. Jyvaskyla, Finland. Contact Alvar Aalto Museum, Seminaarinkatu 7, SF-40600, Jyvaskyla 60, Finland.

Aug. 9-11. 1982 Window Energy Show. Las Vegas Convention Center, Las Vegas, Nv. Contact Window Energy Show, 350 Endicott Bldg., St. Paul, Mn

55101 (612) 222-2508. Aug. 8-12. 1982 Annual Technical Conference of the Illuminating Engineering Society. Atlanta, Ga. Contact IES (212) 644-7926.

Aug. 21-28. American Council for an Energy-Efficient Economy Summer Study. Santa Cruz, Ca. Contact Cheryl Wodley (415) 486-5092.

Feb. 16-18, 1983. International Daylighting Conference, Phoenix, Az, sponsored by AIA, ASHRAE, and DOE. Paper submittal: International Daylighting Conference, Building 90-3111, Lawrence Berkeley Laboratory, Berkeley, Ca 94720.

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YWCA Masterson Branch and Metropolitan Office, Houston

Garden gateways

A long wall punctuated by boldly ornamented portals is Taft Architects' way of separating a complex of recreation pavilions in a park setting from the mundane world out front.

A critique by Barbara Goldstein appears on page 71.

Main public entrance to the building is framed by bands of gridded materials that suggest layers, though all in one plane. The few windows in this wall are intended to blend into the grids and do not all obey the symmetries of the facade.



The façade of Houston's new YWCA building stretches 350 ft with no jogs and few openings, yet it has been rendered inviting by its ornament and silhouette, which emphasize two distinct entrances and a garden gate. Since this north-facing surface can benefit little from shadow patterns, the architects have used flat areas of tile on stucco, with recesses only at the doorways, both devices adjusted to indicate clearly the relative importance of these portals (photos and drawing overleaf).

Behind this closed façade, with its historical allusions, is a very different set of architectural forms. Passing through the wall, and the two floors of cellular support spaces that adhere to the back of it, one reaches expansive recreation and circulation areas with vast openings overlooking the expanse of green to the south.

For this parti, with its apparent disparities, Taft partners John Casbarian, Danny Samuels, and Bob Timme provide an elaborate, but persuasive explanation. First, there were the strong dictates of the site: embedded in the north in a mixed residential-industrial neighborhood typical of Houston's downtown fringe, it overlooks to the south a broad green swale of parkland through which pass the Buffalo Bayou and Memorial Drive, two of the city's prime amenities. So constricted was the actual property for the Y's

needs that there was little choice but to line up the requisite parking (actually a few spaces short of program) along the minor street to the north and squeeze the building into the irregular strip along the park boundary to the south-with some walls right on the property lines. Then there was the Y's need for two very different kinds of spaces-modest-scaled rooms for offices, lounges, lockers, etc., and spaces of much larger scale for sports and swimming; the former were packed into a linear, two-story strip close up to the parking lot-with windowed spaces mainly on its south flank-and the big recreation spaces were placed south of this like pavilions in the park. The compact metropolitan office portion of the complex went to the narrow west end of the property, visibly separated from the larger portion but linked to it by courtyard walls.

In terms of the building's appearance in context, the architects see its north front as compatible with the small-to-moderate-scaled



The 350-ft-long front wall screens two distinct buildings and a garden court from the parking lot, which is graced by a few large trees to the north. The usual approach, from main road to west, gives visitors a foreshortened view (large photo), which makes office structure at west end seem larger than actual size (elevation drawing). No first-floor spaces and few on second floor overlook parking. The long façade gets sun only in late afternoon half the year and is usually seen with cars (above) which relate well to wall banding. Smallest of the three portals (right) is gate to play court and day care center.

neighborhood structures, while the south side is meant to be read, mainly from cars several hundred feet away on the parkway or its overpass, as a set of light-colored pavilions against the darker backdrop of the linear portion. The north front is, they say, appropriately dominated by doorways, and the south aspect just as appropriately by windows.

Outdoors indoors

Even from inside the building, the separate identities of the linear north block and the recreation "pavilions" to the south are maintained—by treating the circulation spaces that keep them apart as, in effect, outdoor spaces. These circulation areas could have been mere residual spaces, were it not for the slight twist in plan that the architects gave to the multipurpose room. This angled placement reinforces the intended image of the room as a discrete pavilion; at the same time, it gives the two arms of the two-story circulation space distinctive volumes of their own-one converging in "false perspective" toward the south window, the other widening to admit more light from the west.

Of the recreational "pavilions" conceived for the building, only one—the multipurpose room—was completed initially. In the view of the building from the south, the end of the circulation space reads as a second, abutting volume, rather than the recessive link it logically would be. The second "pavilion," for the swimming pool, actually now under construction, will add a third volume, in another distinctive color. One wall of this pavilion is already visible in the photos here, framing in part the east side of the circulation link.

There is room for yet a third "pavilion," its function not yet specified, just to the west of the multipurpose room (see site plan). That area is the only one where the building does not already press right up against property lines.

Stripes and squares, curves and circles

The variegated ornament of the exterior walls is all determined by the fairly logical application of some identifying codes for the various parts of the building. The west elevation opposite provides a key: it shows the terra-cotta-colored tile that forms the lower (or foreground) layer of the north façade, stepping up toward the south, reaching all the way to the roof along the south side of the spine building (where it turns into less elegant tinted stucco on the south face). Above the terra-cotta layer, one sees the cream-colored, scored stucco layer that will reappear in the swimming pool enclosure, then the surface of gray stucco with blue tile stripes that distinguish the multipurpose room. It is only around the arched north portals that the band of earth-colored tile swoops up in curves; the other layers of surface rise, too,











Arch of main public entrance is seen from inside in second-floor snack bar/lounge (top). Classroom corridor (above) is ornamented with drip moldings that frame doors and niches. Walled garden (top right)—still to be landscaped—has piperailed balconies against planes of stucco. Balcony with curved tile parapet (photos far right) overlooks main circulation area (opposite page). but without breaking from rectilinear geometry. No curved lines appear anywhere else on the exterior.

Ornament inside the complex corresponds more or less to that of the exterior-crisply geometrical on the "pavilions," complex and historically evocative in the linear structure to the north. In and around the multipurpose room, squares of sound-absorbing material and air grilles are called out in the same blue as the pavilion's identifying stripes of YWCA blue; structural beams and corbels pick up the cubic theme; even the glazed overhead doors, either closed or forming a ceiling canopy, can be seen as gridded decoration. In the domestic-scaled lounges and meeting areas in the north block, a useful and traditional chair rail is the spring line for moldings that outline doorways and recesses to lend greater scale, say the architects, to standard-size doors in thin metal frames. Colors here include the warm earth tones of this portion's exterior walls.

Altogether, a complex set of design strategies for a building of some 20,000 sq ft. But then, it did begin with unusually involved program requirements and site conditions, and it was the architects' largest commission to date. When the jury for the 27th P/A Awards program chose the design for a Citation (P/A, Jan. 1980, pp. 116-117) Juror Robert Stern called it, "a witty, unsentimental design that has the spacious stripped-down quality of a warehouse; yet the introduction of abstract versions of traditional architectural rhetoric at the entrances and elsewhere promises a specifically public character." Following this, on p. 71, is a critical assessment of the completed work. [John Morris Dixon]











L-shaped circulation space wraps around multipurpose room (top). Acoustic panels and air grilles are part of ornament. Ramp (left and above) offers views of interiors, pool, and park.

YWCA, Houston

Data

Project: Masterson Branch (downtown branch) YWCA and Metropolitan Administration Building, Houston, Tx. Architects: Taft Architects, Houston (John J. Casbarian, Danny Samuels, Robert H. Timme, partners; Marc Boucher, Jeffrey Averill, project assistants; J.E. McManus, Jr., Kirby Mears, Joyce Rosner, support team).

Site: 1.33 acres, level, some old trees, edge of public park sloping south toward major parkway and bayou.

Program: Metropolitan YWCA office; variety of branch facilities for recreation, classes, day care (see plans); swimming pools initially open, now being enclosed according to plan. Total area: 20,574 sqft (net), 27,626 sqft (gross), by AIA method.

Structural system: steel frame and studs; concrete slab on grade beams.

Major materials: exterior, stucco and ceramic tile; interior, gypsum wall board and ceramic tile (see Building materials, p. 138).

Mechanical system: roof-top single-zone, gas-fired heater. Consultants: Karl Krause Engineers (structural); MNM Engineering Associates (mechanical); Bill R. Abernathy (swimming pool).

Costs: \$1,421,000 (bid, 1980, and actual, 1981); \$51.44 per sqft, not including site work, furnishings, fees.

From south (top photo) gray multipurpose "pavilion" and blue ramp link—with four-square viewing window—are seen against terra cotta colored backdrop of spine structure. View of pool (middle) shows creamcolored fragment of pool enclosure on east wall of ramp. Rendering (right) shows enclosure, now under construction.






Critique

Barbara Goldstein

Young women can always join a gym or health spa if they want to keep in shape. They can join a church or social club if they want to reinforce their moral values and meet new people. But the YWCA represents a special attitude that transcends the purposes of other organizations: it is a haven of order in a constantly changing society.

Today the YWCA serves women of all ages and backgrounds, along with an increasing number of men, providing sports facilities, community meeting areas, adult education, and childcare. When the administrators of the downtown Houston YWCA decided to build new facilities, they needed a building that could accommodate all these activities as well as being the "flagship" for their local operations. They also needed to build it within a tight budget. They formed a building committee, invited architects to submit their resumes, and after a fairly complex process, they hired Taft Architects on the basis of "talent, motivation, and experience."

The building is a series of pavilions, spanning the length of its site, and united along its street side by a continuous, decorated façade. The center of the building and the main public space is a large enclosed atrium containing a sinuous ramp, which moves across the building from front to back, returning on itself to reach the second floor. This is the building's spiritual core—it allows everyone to see the activities in the exercise areas or pools.

The main reason for the building's linear form and its exterior decoration is the shape and orientation of its site, a 350-ft-long narrow lot, which faces a run-down residential neighborhood on one side and a large city park with a bayou running through it on the other. First, in order to clearly separate the different uses of the building, the architects broke it into separate volumes. Then they put the building's major entrances on the street side, giving the offices south-facing views.

The front of the building has a rhythm and scale which clearly delineates its separate parts: childcare area, community rooms, metropolitan offices. At the same time, the façade ties the building together, forming a continuous wall which steps up to herald each entrance. Embellished by arched doorways, terra cotta tiles, and horizontal rows of blue tile, the front is reminiscent of a Victorian infants' school, the little entrance to the children's courtyard recalling the gates to the girls' and boys' playgrounds. Although the front of the building has few windows, its lively façade is familiar and welcoming.

The rear of the building is treated as a billboard graphic, a flag waving to the parkway and the city across the bayou. Here the architects used color to diagram the different functional components of the building: terra cotta is used for the office and classrooms; blue, a conscious reference to the YWCA's blue triangle symbol, is used in the public

atrium space; and gray-beige, indicating neutrality, is used for the multipurpose space. Throughout the building, color and ornament are used to reinforce an existing order.

The building seems old-fashioned and contemporary at the same time. Its plan and organization are clearly modern, but its elaboration is drawn from older sources. In contrast to traditional YWCAs, with their hierarchical organization, this building is open in plan. Instead of locating the gymnasiums and pools away from the public meeting spaces, the architects invite the public to become a part of the activity. The central atrium, along with the open courtyard in the childcare area, characterizes the nurturing, female properties of the building.

There is a glorification of functionalism and reverence for mechanical objects in the building's interior system of ornament that recalls the stylized functionalism of Otto Wagner's Vienna postal savings bank. Ventilation grilles, garage doors, and even acoustical tiles are utilized in a decorative way; every piece of hardware is carefully placed. Repetitive motifs, such as the stepping of windows, ceiling coves, and exterior tile, reinforce this aesthetic. And scored and stained concrete floors have an almost Christian purity.

Other aspects of the decoration seem almost precious, belonging to another system. The applied curved moldings used on the walls of the interior spine have the same effect as the molding on the exterior of Bob Stern's Lang house (P/A, April 1975, pp. 78-83)—they hide cheap construction and cheer up an unadorned surface; but in this context, they appear a little bit too cute.

At the YWCA, Taft Architects made the best of a limited budget and tightly prescribed program. They made the restrictions work in their favor, decorating the shed and giving it substance. The building has already succeeded as a flagship for the Houston YWCA in that a major donor, Carol Masterson, has come forward to underwrite the next phase—the swimming pool enclosure. With that complete, the YWCA will have the facilities it needs, as well as a community symbol.

There is only one nagging question that remains in my mind, and I can't resist mentioning it. Given the fact that the YWCA is an organization founded by, administered by, and serving women, it is surprising that it did not attempt to strengthen its image by actively seeking out women architects. In the early days of the YWCA, Julia Morgan designed some memorable facilities for it. In 1982, with many fine women architects entering the profession and the YWCA implicitly involved in women's issues through its adult education and health care programs, it is surprising that the organization did not apply some affirmative action to its architectural selection process. The building that Taft Architects produced is both admirable and functional, and it embodies many female qualities in its approach. It was a great opportunity for them to tackle a building of a larger scale than they had previously done. It's a pity that the same opportunity is seldom afforded to architectural firms founded by capable women. □



Moldings frame doors and niches in the classroom portion.

Barbara Goldstein is a Los Angeles correspondent for P/A and editor of Arts + Architecture. Community Center, Bergisch Gladsbach, West Germany

Industrialized expressionism

German architect Gottfried Böhm, known for his use of free-form concrete, turns to repetitive metal forms for a community center with a remarkable auditorium and a significant urban presence.





Bensberg Town Hall, 1962 (top), and Children's Village, Bensberg-Refrath, 1963 (above). Side entrance (right).

Opposite page: Front façade on the market square (top), with existing 19th-Century restaurant/hotel at left. View along front façade (below).

At first glance, the lineage of the Community Center in Bergisch Gladsbach, a small town near Cologne, West Germany, is far from obvious. In the 1960s its architect, Gottfried Böhm, molded sacred and civic buildings out of free concrete that seemed to grow out of the earth and strive heavenward, in such works as the Church of the Pilgrimages in Neviges (1962) and Bensberg Town Hall (left). The free expressionism of Böhm shares certain characteristics with the work of the architect's compatriots Hans Scharoun and the earlier Erich Mendelsohn, and developed from the more geometric expressionism of his father, the well-known Catholic church architect Dominikus Böhm, with whom he worked until the latter's death in 1955.

How then do the lightweight, industrial, metallic repetitions of the Community Center reveal their heritage, traceable to the free use of weighty concrete forms? Böhm claims he came to rely more and more on industrial materials in the early 1970s because poured concrete was an expensive and dying technology, but examination of his work in the middle and later 1960s suggests another motive as well. In the Children's Village in Bensberg (left) and the Old People's Home in Dusseldorf, for example, Böhm became involved in smaller, more intimate, repetitive forms. Rendered in heavy materials (brick, concrete), the forms were awkward, even lumpy. The switch to lighter materials was inevitable, as a release. Ongoing work, such as his design for Prager Platz Berlin (Jan. 1982, p. 204), shows an increased reliance on repetitive and lightweight forms.

The Community Center, wrapping around and incorporating a small existing theater, and providing meeting rooms, bowling alleys, and a roof-top discotheque, has a hard, smooth, yet highly articulated body of steel and reflective glass sitting naturally atop a tile-clad base and butting rudely but comfortably against a 19th-Century Baroque stuccoed structure, formerly containing a restaurant and hotel and now, as part of the complex, a restaurant, bar, three shops, offices, and several apartments. The natural combination of old and new elements, industrial and traditional materials; the effective suggestion of a traditional German commercial street front through the use of projecting bays and awninglike louvers; and most important, the successful completion and integration of the market square, comprising disparate buildings of various eras (mostly late

SITE PLAN







19th and early 20th Centuries), indicate the hand of an experienced and capable master. But the unrestrained, "arty" touch of the expressionistic Böhm can be seen, for better and for worse, in certain elements, especially in the interior.

Interior: illusion and kitsch

The most sensuous and obvious link to Böhm's past is the 600-seat multipurpose auditorium built under the roof structure of a small existing theater. Here, reddish "beaver" roof tiles (surprisingly effective acoustically) and shiny green edge tiles wrap around projection booths, catwalk, stairways, loges, and balconies, to encase an environment that represents at once a cityscape and a stageset. This effect is continued ad infinitum by Böhm's remarkably illusionistic safety curtain portraying a nearly windowless, Rossi-esque city inhabited only by a wandering rose. To this point, the hall auditorium has an admirably tactile, three-dimensional, earthy yet spiritually suggestive presence; but if the painted rose's wandering stem raises certain doubts, the vine-draped tracery painted on the doors and the green and blue abstractions painted on the ceiling confirm them: Böhm's plastic expressionism is reduced, in two dimensions, to naïve kitsch.

Surface treatments in another area, as well, must be called mediocre. In the large divisible reception room on the second floor, variously used for council meetings and fashion shows, contrasting finishes of natural wood and paint abstractly suggest traditional wall paneling and arches (Böhm seems to be making an abstract stab at "Postmodernism"), while mirrored ceiling squares seem intended to add "richness." These effects, as well as the



Community Center

Second-story divisible reception room (top right) uses contrasting finishes on wood wall paneling, mirrored squares on the ceiling, and Böhm-designed lamps. Fountains (center) and seating niches in the lobby are rendered sculpturally in green tile, while the "ironwork" draped with ivy on the auditorium doors is a two-dimensional painted effect.

Opposite page: Banks of stairways connect and emphasize the long, hard, dramatic public lobby (top right), which is used for receptions and exhibitions. The cityscape of the tile-clad auditorium (bottom) is continued to infinity by Böhm's illusionistic safety curtain.

Data

Project: Community Center, Bergisch Gladsbach, West Germany.

Architects: Professor Gottfried Böhm, Hans Linder, Cologne, West Germany.

Site: a pedestrianized market square, with a small existing theater and a restaurant/hotel building that had to be incorporated. Program: a multiuse auditorium using the existing theater roof structure, reception rooms of various sizes, a discotheque, a cafeteria, two bowling alleys, a restaurant, bar, offices, shops, and apartments in the old restaurant/hotel structure. Structural system: reinforced concrete foundations and structural framework.

Major materials: steel cladding on the exterior with fixed sunshades, wood paneling on interior walls, with "beaver" tiles in the auditorium. Quarry tiles and rubber flooring.

Special equipment: television broadcast equipment, central lighting, and loudspeaker system. Mechanical system: hot water floor heating. Air conditioning in the auditorium.

Photography: Inge and Arved von der Ropp, Cologne; Klaus Beckmannshagen.









Legend

- 1 Entry 2 Lobby
- 3 Auditorium
- 4 Bar
- 5 Restaurant
- 6 Shop
- 7 Administration
- 8 Café
- 9 Upper auditorium
- 10 Reception room 11 Meeting room
- 12 Terrace



Böhm-designed lamps here and on the exterior, border on unknowing, commercial decoration.

But to dwell on these few disappointments would be to overlook the great successes of the building. The auditorium described above, remarkable despite some surface flaws, is adaptable to many uses. The front of the stage can be lowered to orchestra pit level or to audience level, and the auditorium seating, removable except on the balcony level, can be replaced by tables and chairs so that the hall can be used for cabaret. The doors can be thrown open, increasing the room's capacity by incorporating the multilevel lobby for large events.

Public and private

The lobby itself is a striking example of Böhm's principles. It coolly connects three long half levels with banks of open stairs, using practical materials (quarry tiles, rubber tiles, tubular steel balustrades) and contrasting strong colors (vivid russet, black, green); but it gives respite from its open publicness by providing intimate sitting niches along its edges, in Böhm's humanly derived (not formally based) layering system.

It is as an urban element, however, that the Community Center makes its most significant contribution, providing an actively participating backdrop to the large market square. The square itself passes through the building, and inner corridors form a somewhat circuitous interior street, which will lead to future developments via a bridge across the adjacent highway. If the new metal-clad stairtower lacks the evocative wealth of the Bensberg Town Hall spire, it does give counterpoint to the rhythmic wall. And as an example of respectful but far from colorless preservation, it allows the decorative old building at its corner to remain the climax of the composition. [Susan Doubilet]





Banque Bruxelles Lambert, Lausanne, Switzerland

Mainly on the plain

A luxurious brand of illusionism pervades the interiors of a merchant bank in Switzerland.

A strangely populated landscape greets visitors to the Lausanne branch of the Banque Bruxelles Lambert. Mountain views frame a forced perspective of lines converging on the floor toward a tiny lighted building that is surrounded by marble tables and lacquered desks, in what seems to be a cross between a Japanese ink painting and a de Chirico cityscape, with furniture. In fact, it is a banking hall. Its architect, Emilio Ambasz, felt that his task in designing the Belgian bank's public spaces was to demonstrate, architecturally, the bank's intention, in its first foray into Switzerland, to become "an accepted and integral part of the surrounding region, the Canton Vaudois." Ambasz's personal stock of Lausanne imagery included mountains, snow, lakes, steep streets, and quaint façades. But tall buildings now hide the mountains, and narrow streets make it difficult to contemplate the façades. Still, the architect found these images sufficiently pervasive and compelling to offer a basis for his design. "My hope," he explained, "was that those entering the bank's ground floor would, for an ineffable instant, discover there that which they had always longed for but had, until then, rarely seen." It seemed fitting to Ambasz that this foreign institution should make its walls "transparent" enough to bring back the countryside that was once there, as a goodwill gesture to its host city. Furthermore, the design offered a chance to enlarge-at least visually-an undistinguished series of small spaces in an existing building.

The program required remodeling only the ground and fifth floors of the building. The ground floor houses a banking hall, small meeting rooms, cashier's office, vault, and a room for safe deposit boxes. (While this is not a retail bank, Swiss law requires that all banks offer minimal retail services.) The fifth floor contains two waiting areas, client meeting rooms, executive offices, and two board rooms. The main banking hall, which measures only 24' x 36', with ceilings barely nine feet high, is given a far more expansive air by means of the trompe l'oeil renderings of the mountains, and a deeply reflective, midnight-blue lacquered ceiling. The mountains are in fact a succession of three cut-out panels of different heights, each painted and placed a foot apart from the next and backlit. To further the illusion, the mountain view is screened by a curtain of silk strands that filters the light reflected by the mountains, making them appear as if they were being seen through hazy Alpine air. On one wall of the main hall, three windows frame more mountain vistas; they are set into a wall that is placed eight feet behind the silk curtain and offer the visitor changing perspectives as he moves along the wall. All the mountains are rendered by means of a sophisticated lacquering technique that requires more than 12 layers of paint to simulate depth and texture. Ambasz wanted the banking floor to appear as a flat plain surrounded by mountains; in case we are still unconvinced by the illusionism, bronze perspective strips in the floor converge on a scale model of the bank's façade, rendered as Ambasz would have intended it if his proposed alterations to the landmark structure had not been vetoed by the building's neighbors. (The model also hides the door to the cashier's booth and the safe directly behind it.) Thus, an inversion of scale opposes the existing mountains and cityscape to the intervening office landscape, with the latter appearing almost as a series of gigantic objects in a dollhouse-sized world. The sharp perspective play is heightened by the angled placement of the marble countertops used for retail transactions, which also divert the visitor's eye from the clerks' desks.

Banque Bruxelles Lambert

FIFTH FLOOR PLAN

In order to integrate the two floors, Ambasz developed a special unit for the fifth floor consisting of a row of ceiling lights, hidden from view by the same silk-thread curtain used on the ground floor, to diffuse light while maintaining the aura of misty transparency. These elements curtain fifth-floor windows and define the main conference room space. In the private offices, the spatial illusion is further enhanced when the visitor looks through the curtained windows to the city skyline—the real thing, this time, although by now he is conditioned to expect the fabulous fake.

Preceding page: In the main banking hall, an illuminated model of the building's facade becomes an "object on a plain" in a surreal landscape—of mountain views veiled by a misty curtain of silk threads-containing the "real" landscape of columns, marble tables, and reflective ceiling that is the setting for more mundane activities. This page, top left: The plan of the fifth floor includes conference rooms, executive offices, and client meeting rooms. Lower left: The ground floor plan includes the room for safe deposit boxes (upper left), cashiers' desks and vault (middle), and the main banking hall (bottom). The silk curtain over the curved glass wall (at the upper left corner of banking hall) conceals the head cashier's desk from public view, based on the principle of the Mughal harem screen: a lower light level inside the cashier's booth insures that he can see out to the banking hall while remaining invisible to patrons. Access within the bank is, of course, carefully restricted; if a clerk in the banking hall wants to cash even a small check, he must go back to the head cashier's office. This page, top center: the view from a corner of the large conference room through the fifth-floor reception area to the small conference room. Middle: Rows of downlights, screened by silk strands, are the design element that unifies the ground-floor and fifth-floor elevations. Deeply lacquered black furniture and cabinets glow and reflect at the same time; these "pure minimalist volumes" suit the image of a venerable merchant bank while offsetting the spectacular fool-theeveful of a view. Bottom: a pair of tables designed by Carlo Scarpa occupy the center of the room reserved for safe deposit boxes; the eerie lighting is the result of government regulations setting minimum levels of illumination in such rooms.

Thus, explains Ambasz, "the cycle is completed. We have gone from illusion back to reality. The visitor who, on the ground floor, saw the bank façade sitting in the middle of a valley surrounded by mountains discovers, upon arrival at the fifth floor, that the bank is an integral part of the city he left behind when entering the building. Nature is here turned into part of the architectural artifice, while the architecture itself seeks to become part of nature."At any other level, such illusionism might never make it past the level of representational kitsch. In this case, however, the illusionism is so playful, thanks to the inversions of scale—and so frankly decorative, thanks to the restrained luxury of the materials and the elegance of proportion—that the visitor walks willingly into the fantasy. The design provides a setting serious enough for clients who want to discuss what to do with their latest millions, while also reminding them visually that they couldn't be pondering the question in a more appropriate land. [Pilar Viladas]

This page, top: In the banking hall, the wall behind the clerks' desks is punctured by a series of windows framing still more mountain views whose perspective changes as the viewer walks by them. The silk curtain is, in this case, set eight feet away from the wall, to screen filing and storage cabinets. The sharply angled placement of the clerks' desks directs the viewer's attention to the model in the corner, as do the converging perspective strips on the floor. Bottom: Twice a year, the bank's directors convene in the large conference room, around a 21-ft lacquered table; the walls carry out the consistent design element of downlights and silk curtain.

Data

Project: Banque Bruxelles Lambert, Lausanne, Switzerland. Architect: Emilio Ambasz Architect, New York. Client: Banque Bruxelles Lambert, Brussels, Belgium. Program: remodeling of the ground and fifth floors of an existing building (totaling approximately 20,000 sq ft) to accommodate a banking hall, cashiers' offices, vault, client meeting rooms, safe deposit box room, conference rooms, and executive offices. Photography: Paolo Gotti.

The order and the awe

From seeking legislative support to researching "lost" technologies, the restoration of a state capitol is no simple task. In this case, a building was saved from destruction (by both nature and man) and brought back to life in vivid color. It's not just good. It is magnificent.

In contrast with the interior, the portly exterior shell of the capitol building (shown below) was not greatly altered during the first century of building use. The interior of the rotunda (opposite) had to be completely reconstructed from photographic and historic literary evidence (below). Had they in part failed, they might have been forgiven. Had the team of architects, engineers, contractors, historians, manufacturers, and construction workers succeeded in reclaiming the near-crumbling capitol building, but somehow had done it clumsily, the spectacular interior alone would have been enough. Had the historical reference been looser, more economical, one would say, "Well sure, but look what they did to earthquakeproof the building."

Even then, with the attention to historic precedent and the structural feat intact, the pressure must have been considerable to furnish it with contemporary office furniture, hung ceilings, fluorescent lights, and conventional carpeting. In such an event, we could have photographed the exterior, the assembly chambers, and the rotunda and pronounced the result magnificent. The plaster work could have been replicated in fiberglass or the new doorknobs could have been modern and hinges contemporary style. We would say, "Yes, but look at the job on rugs, the floor tile." The wooden doors or the woodwork could have been simplified in some way, for expediency . . . in short, had any member of the team been weak or any part of the composition been compromised. the whole would have been enough to leave us awed, if not this mushy about its splendor.

The fact is, this seat of state government, this museum, this house, this office building was done with such uncompromising accuracy, care, and unrelenting devotion that one finds it difficult to imagine a building in America that has been given more attention per cubic inch. For those people who gave it such attention, it is THE building of their lives. To the tourists who visit the building, ignorant of its past or its most recent history, it is just another splendid place to visit in California. Capitol buildings are supposed to be splendid.

The three-part start

A brief history and story of the destruction and gutting of the insides of the building and its structural reconditioning has been presented before in these pages (P/A, Nov. 1979, pp. 88–93). On a grand scale, the task was no more delicate than replacing the insides of a wedding cake while leaving the icing intact. On visiting the building, now completed for the second time, one finds the structure, the construction, has disappeared. Even the exterior, which had been preserved and repaired, and its glowing new copper dome are but echoes of the chimes that are ringing on the inside.

Before the demolition of the decaying portions of the building, three tasks of significant dimension were performed. First, the existing building had to be recorded in drawings and photographs; those pieces that were intended to be saved had to be labeled and chronicled. While the existing building was being recorded, its archives were thoroughly researched, and a call for information went out to the state for photographs or documentation in writing that pertained to any part of the building. Finally, once the record and archival search were complete, the "new" design had to be "created."

The measured drawings proved that, with the exception of tiled floors and some of the doors and woodwork, very little of lasting historic value could in fact be saved. Archival research proved the building had endured a series of renovations in its first century of use which systematically destroyed the historic spaces. Before the actual "design" for the reconstruction could take place, therefore, the team had to decide which "life" of the building was to be reincarnated.

The dominant figure in this decision was Raymond Girvigian. As a historic restoration consultant, Girvigian had combed the written

State Capitol, Sacramento, Ca

and (black-and-white) photographic history of the building. A key element of the restoration period decision, however, was the continued utility of the building (what the recreators view as the building's passport to longevity). As project architect Robert Mathews of Welton Becket explained: "One of our main charges was not to make the building into a museum." A period in history was sought, therefore, when the building had already been furnished with elevators and electric lights, but had maintained sufficient contact with the glory of its past; 1900 to 1910 was chosen. Also included in this period, for utilitarian purposes, were the mezzanine spaces on the fourth floor, which had been created above the senate and assembly chambers to extend office space (30,000 sq ft). Although the basement of the building was not used in the early 1900s, the new plan intended using the space primarily as a cafeteria. The decision was also made early in the design to preserve only a portion of the building as museum space, depicting the use of the times with complete historic accuracy. Four key constitutional officers' facilities were among the spaces recreated. A second category of restored space occurs where the antique furnishings are historic of the times, but do not necessarily replicate the original space. These rooms are used daily by the officials of the state government, as main chambers, hearing rooms, and offices. A third level of use is the standard office, which is furnished with modern replicas of furniture that was typical of the time. Such use is a main task of the building.

Once the period of history to be replicated had been chosen, the design task was just beginning. Of all of the hundreds of photos and newspaper articles about the building over its lifetime, less than two dozen photographs depicted the period from 1900 to 1910. In some cases, only one old black-and-white photo existed for a space as important as the rotunda. They were "silent on color." The only information about the colors used came from a sparse selection of historic newspaper accounts.

Another important decision was required during the early design phase, largely due to Girvigian's influence. It was decided that the "designers" were not free to design or freely fill in the "blanks" with their own conception. A form of archaeology had to take place. If actual photographic evidence or written documentation did not exist, the designers had to research the guidebooks of the period and try to "become" 19th-Century architects.

So that is what occurred. The photographs became the seeds for the design of the spaces, but the nourishment of the design came from the same sources that the original designers would have used. The creativity for

Ground-floor rotunda marble checkerboard was nearly intact.

Second-floor rotunda (above and right) Minton tile.

Glazed tile ground-floor corridor (cover and above).

Marble mosaic in second-floor corridors (above and right).

decision-making also originated in the same place, namely the talents of living people. Said design architect Louis Naidorf, "We had to work from scant clues and try to reconstruct a civilization from potsherds and arrowheads." Corinthian capitals, entablatures, friezes, and columns were all drawn. The drawings went to the committee of reviewers, each with his own expertise. The contractor, the structural engineer, the historian, and the state representative were the jury for the architects. As Naidorf explained, "Each person brought an eye and an opinion."

Once the initial design was complete and the existing interior walls were destroyed, building fragments from other periods were discovered. Layers of paint were peeled away revealing some original colors. Small chunks of egg-and-dart pattern were found; or as happened in the case of the monumental stair, an original section was located in a Sacramento church (a discovery originating from a clue from a newspaper article of the period).

How to do it

Once the task was defined, the technology for its creation had to be chosen and the person to execute the technique had to be found. An attitude of critical importance was that as Naidorf phrased it, "The accuracy would extend to the process." Anything originally in marble, plaster, wood, iron, or clay tile had to be reproduced exactly in the same material today. Such an attitude meant the discovery of an artisan with enough skill to execute the design in that original material.

This was more than an issue of technique. In the case of the paintings especially, very little remained of what the actual colors were, and in some cases, what actual pattern or design was used. This meant that the modern artist, like the architect, had to return to the pattern books of the period, and in the manner of an archaeologist, create new art as if he were an artist of the time. As Naidorf explained: "A lot of the decisions came off the brush on the job." You had to "put yourself into the mind of the original person who created it." Again, these interpretive efforts passed before the rest of the team for approval and corrections. One difficult decision was to decide whether a design that appeared in photographs was three-dimensional or trompe l'oeil.

And so the process went. A fuzzy reference in a newspaper article, for example, discussed a garland in the frieze. Architect Naidorf might do the sketch. It was passed to ornamental plaster designer Lenna Tyler, then to sculptor Mike Casey to execute in plaster. The plaster cast was passed to Frank Bouman to paint. Back it went to the committee for criticism.

Rugs visible in the photos in the prime spaces had to be rewoven, pattern books of the period reviewed. Only two colors were known: Red was the dominant color of carpet and draperies for the senate side; green was

used for the assembly. The new floor tiles also had to be matched with the old. The carving and wood type were duplicated as closely as possible. Light fixtures visible in certain photographs had to be drawn up and redesigned to accommodate electricity and then created out of authentic materials.

Tucked neatly into the turn-of-the-century splendor are the mechanical organs and arteries that are necessary for any modern building. In the chambers, for example, sophisticated lighting allows for four television camera systems. An electronic vote tally machine slips out from behind a door when the senate is in session. When not in use, the same chamber can be dimmed to the original gaslight level for the visiting school children.

Every bit of care that went into the visible skin of the building went into the technology hidden under the surface. The story goes that an architect was touring the building during construction and found a worker cleaning pipes that were to be eventually hidden in the ceiling. Why, he asked, clean pipes that were to be hidden? "I asked the same question of the boss," the workman replied. "Fifty years from now," he said, "when someone takes down this ceiling, I don't want any dirty pipes representing my work!"

A building reborn

Outside the space program, one does not often find this attitude or the budget to support it. It is contagious. Writing about the building, one realizes that as the words go into print, complete with colored pictures this time, they may be part of some archival search a hundred years from now. To follow the tradition of the project, one would return to the journals of the time and try to see the new building with the eyes of a person in 1905, a grandfather's eyes.

The exterior of the capitol would no doubt remind him of the great European capitols. The dome, the symmetry, the Classical columns, although harmonious, might seem foreign to this land of giant redwoods and awesome mountains. Inside, the scale of even large spaces maintains a personal, almost domestic flavor—the wood on the staircases and doors, the small light fixtures, the ornate

SEGMENT OF INTERIOR ELEVATION

Patterns in the chamber friezes (top) and the rotunda (above) had to be created from historic photographs (top right). The designers did know two colors: the senate chamber theme color was red; the assembly chamber theme color was green (see opposite page). Although historically accurate, the ceiling in the legislative chambers had to be lowered to provide mezzanine office space, for the architecture, an unfortunate addition.

Documented evidence of the contents varied on the smaller rooms. Governor Pardee's main office (shown below) was recreated as precisely as possible for museum purposes. The office of the speaker of the assembly (right) had no trace of photographic rec-ord and was simply furnished (and used today) with antique furniture of that period. Because the restoration era chosen (1900-1910) was a transition period historically, both "masculine" American Renaissance spaces, such as the third-floor meeting room (above), and the "feminine" Victorian colored tracery in the archival room on the main floor are recreated (top right and opposite page).

State Capitol, Sacramento, Ca

painting, the delicacy of detail. The domed space and floors hearken to grand villas or religious spaces, the order and the awe. Although the structure itself is regular, the surface decoration in different parts of the building portrays the fact that the period chosen for replication was not the time at the opening of the building, but some 50 years later. The periods of the rooms are, therefore, not necessarily consistent with each other.

Several of the spaces, the dome, some hearing rooms, and offices are lacy, sugary, almost feminine in appearance, more like brocade or lace clothing. By contrast, other rooms are laden with dark-stained wood and luxurious brown leather more reminiscent of the classic men's club, waiting for derby hats, pocket watches, and cigar smoke. The museum spaces capture the spirit of the times. Desks are left "as is," replicated from photos. At the turn of the century, Frank Lloyd Wright was just another crazy architect working in Chicago. Neither Sullivan's nor Wright's ideas are anywhere to be seen in the building. Modern American architecture as it appears in the history books was still an infant back in the Midwest.

The period represented in the "new" building is memorable for bridging Victorian and American Renaissance periods with references as old as ancient Rome. Being rebuilt now, it also recalls a time only 70 years ago. The Californians of the 1860s sought recognition that their brash new epoch was no less great than that of the Romans; that capitols of states could vie with the pomp of European countries. If the state did not have a history centuries old, it could borrow grandeur from the past. It was a "space shot" to the past rather than to the unknown future. By reconstructing the building, the Californians are saying that they need the building as much as the original occupants did; in fact, more so. When a state, a people, or a person begins to ; preserve the past with zeal, it is a sign of maturity and often a childlike passion for the objects of youth, as if such care will somehow retard age.

There is much to admire about the building just as an experience: the attention to detail, the artisanal influence, the variety, the magnificence of some spaces. It shows us what color, ornament, and detail can do for space. The dominant visual lesson over and over again is the richness that comes from imperfection. The old tiles can be distinguished from the new. The hand-painted patterns are more lively than the more mechanical carpet patterns.

For the architects, the project dispelled many myths. Architect Naidorf clearly states some of them:

Myth No. 1: There are no craftsmen available anymore. This proved to be completely false. Says Naidorf: "If we had a problem it was that the levels of craftsmanship today are superior to those of the time." Matching existing work often meant creating a more "crude" product.

Myth No. 2: All the technology exists, but the crafts are gone. The construction team found just the reverse—"actually the technologies were gone, but we could get the craftsmen."

Myth No. 3: Today's workmen just don't care anymore. The architects and engineers accustomed to more conventional buildings found an "amazing spirit" among the normal workmen. A leitmotif of the job was the question from the laborer: "Why don't you do more jobs like this?" The workers came from as far as Kansas City to the dedication party of the building. As Naidorf explains it, "people want to be part of something decent."

One thing is sure, whether the building is admired as the preservation of a symbol, an antique, an architectural experience, or the inspired performance of a building team, it is a triumph of care. [Richard Rush]

The decision was made early in the restoration process to reproduce the missing elements in the building in the same material originally used. Two bronze elevator façades (top left) were existing; two had to be fabricated. Much of the woodwork could be reconstructed (top right) based on existing fragments. A portion of the original monumental stair, well preserved, was found in a local Sacramento church. Although many doors were preserved, the walnut door (above) needed work. The California bear (lower left) was a recurring theme in the woodwork. All of the "new" lights in the building (lower right), including chandeliers, were recreated from historic evidence.

Data

Project: California State Capitol Restoration, Sacramento, Ca.

Architects: Welton Becket Associates, Santa Monica, Ca; MacDonald Becket, chairman of the board; Robert Mathews, project architect; Louis Naidorf, design architect; Randall Myers, interior design.

Client: Joint Committee on Rules, California State Legislature; Assemblyman Louis J. Papan, chairman; John Worsley, Dale Dwyer, owner's representatives.

Program: architectural and structural restoration of the original building. **Site:** Capitol Park, a 10square-block area in center city Sacramento.

Structural system: waffle concrete floor system; interior poured reinforced concrete bearing walls; exterior brick bearing walls strengthened with "Shotcrete"; steel roof trusses; reinforced concrete mat foundation. Mechanical system: single duct, variable volume air conditioning. Chilled water and steam available from State Central Energy Plant.

Consultants: URS/John A. Blume Associates, structural (Lloyd A. Lee, project engineer); Raymond Girvigian, historical; Stephen T. Baird, cast iron; Hobart R. Goodrich, ceramic tile.

Conservators: James Alkons, Balboa Art Conservation Center, Hensley Antiques, Ben Johnson, Myrna Saxe, Nathan Zakheim. **Ornamental plaster:** Michael Casey, sculptor; Lenna Tyler, designer.

Decorative painting: A.T. Heinsbergen & Co., Inc., Frank G. Bouman, artist. Mosaics: Hans Scharff, artisan; Ralph McIntosh, installer. Restoration superintendent: Robert Catlett. General contractor: Continental-Heller, Inc./

Swinerton & Walberg Co., Michael J. Heller, chairman of the board; Charles Kurtz, project manager.

Costs: \$67 million, project; \$50 million, construction. **Photography:** Marvin Rand, except as noted.

Thomson's Glasgow

Malcolm Holzman

The work of Alexander (Greek) Thomson can be appreciated in its own right and for the influence it may have had on Mackintosh.

l Grecian Chambers.

2 Oakfield Terrace.

3 St. Vincent Street Church.

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Current interest is high in pre-Modern Movement architects and their buildings, as witnessed by the Edwin Lutyens exhibitions at the Hayward Gallery in London in 1981 and the MoMA show in New York in 1978. There have also been a number of recent publications on the works of Lutyens, Charles Rennie Mackintosh, C.F.A. Voysey, Karl Friedrich Schinkel, and the Viennese Secessionists, among others. With these new presentations, the value and understanding of many architects' work will increase. At the same time, some less prominent 19th- and 20th-Century practitioners could also be rescued from obscurity. This should be the case for Alexander Thomson (1817-1875), a Victorian architect of Glasgow. To date, his architecture has not been fully considered for a variety of reasons: many of his structures have succumbed to the onslaught of urban renewal; his style did not translate directly into a form others could follow; and his historical inspiration was not pure-it was neither Greek nor Egyptian, but both and sometimes simultaneously. Also, his work, with few exceptions, has been overlooked in critical evaluation (with that of other Scottish practitioners of the time) because Scotland was viewed as an outpost for styles developed to the south.

Glasgow, the city Thomson helped to build, reached its largest population and status as the "Second City of the Empire" by 1900. This was achieved during a period of intense industrialization founded on new developments in shipbuilding, engineering, and medicine based on the scientific theories of Rankine, Lister, Kelvin, and others. In a time when technological innovation began to define the split between old and new methods in industry, it would also become an architectural criterion. Thus, by 1900, architects generally could no longer pursue style and composition without also acknowledging the new technology.

In today's Glasgow, Thomson's buildings are clearly discernible and set apart from their neighbors, not because of their age (other examples of the period abound), but because they include a unique mode within a limited Classical idiom. These structures, generated in part by the initial wave of growth from the industrial revolution, were conceived by their owners and executed by their designer as commercial properties. But less than half of his buildings constructed between 1850 and 1876 survive to this day. Many of the remaining housing units, however, are central to the revival of their neighborhoods, and most of the commercial buildings still serve as elements in active shopping districts.

Although Henry-Russell Hitchcock, in Architecture Nineteenth and Twentieth Centuries, states that Thomson "built in the fifties and sixties three of the finest romantic classical churches," his work remains relatively unnoticed outside his native city. The reasons for considering it now center on Thomson's ability to develop a unique and identifiable architecture within limited design parameters, his use of history, and the precedent his structures may have provided for Charles Rennie Mackintosh. Thomson's style was founded upon the formal considerations of composition, pattern making, ornament, and illusion.

Composition

His compositions are traditional and usually developed as three elements: two ends and a middle, assembled parts, and openings in flat surfaces. While these devices are not exceptional in themselves, their execution is unique. The Grecian Chambers (1) and Oakfield Terrace (2)-one commercial and the other residential-are typical of the tripartite composition. They present symmetrical front façades with pedimented ends enclosing midsections of stacked horizontal layers. The St. Vincent Street Church (3) asymmetrically combines a massive Egyptianlike base surmounted by a Greek Revival-type temple alongside an Asian-inspired tower. Each distinct element transcends its origin and form through this unprecedented union and combines to make a memorably uncommon structure. The residence, Ellisland (4), presents a flat façade with three large symmetrical punctures. The end openings contain simple three-part windows. The central opening frames two Egyptian-type incised and painted stone columns in front of a three-part carved wood entry assembly, a stone platform, and steps.

Frequently, Thomson's compositions are raised above street level by the use of a base in order to set them firmly on the ground. The sloping site of the St. Vincent's Street Church (3) allowed for a two-and-one-half-story podium at one end; the Caledonia Road Church (5) was elevated three feet and placed on a smooth cyclopean foundation; and the Great Western Terrace is sited above its natural embankment on a large platform.

5 Caledonia Road Church. 6 St. Vincent Street Church.

9 St. Vincent Street Church.

Pattern making

Thomson's approach to pattern making includes Classical devices and those of his own invention, which are used at both the scale of a facade, where window openings and columns become an ingredient for a pattern, and at a traditional, decorative size in stencils and appliqué. The chosen design elements for a large-scale pattern are used as if they were beads on a string in which the elements are joined together. Some lose shoulder architraves and become giant fret motifs (6); stylized palmettes take on varied forms. Incised in stone, they become a stripe; cut in metal as a screen against the sky (7), they become a profile. These linear patterns and others are placed in structures to appear not only as singular bands, but are often stacked to make major portions of building façades, as in St. Vincent Street Church (3), the Grecian (1) and Egyptian Chambers (8). The bands appear visually strongest when viewed obliquely (8); when seen head-on, they unravel to their constituent parts. This patterning of elements is also evident on the interior of the St. Vincent Street Church, where stenciled palmettes, honeysuckle, and anthemions reinforce the flat face of the balcony (9) and lobby (10) walls. In each instance, interior and exterior, the small-scale patterns are used in a similar way. Whether incised in stone, stenciled on plaster, or applied to wood, they appear dark on a lighter surface, as if illuminated by natural light.

8 Egyptian Chambers.

10 St. Vincent Street Church.

Thomson's Glasgow

Ornament and illusion

Simplification marks Thomson's use of ornament. Although sculptural elements (11, 12) appear on the temple sections of the churches and elsewhere, more often the ornamentation is stylized. Incising stone is his favorite device (13).

On many of the same buildings, another technique is used-that of carving away sections of the solid portion of the façade, as at St. Vincent (3), Ellisland (4), and Oakfield (14), and inserting large elements into these openings (15). This creates the illusion of mass and great wall thickness (16), where physically not more than 2-8 in. of wall plane has been manipulated to achieve the result. On the exterior sidewalls of the temple section of the St. Vincent Street Church, there are two large stone-framed openings (17) slightly forward of the plane of the wall. The center mullion, a column, is held free of the window (an interesting development in its own right), but clearly employed to give the illusion of the frame assembly passing in front of the glass and the continuous wall surface. This device is more fully developed at a larger scale in the upper levels of the Grecian (18) and Egyptian (19) Chambers. At the top stories of these façades, Thomson holds the glazed surface back to allow the entire length of the dwarf colonnade to pass by unobstructed. This early example of the separation of structure from window wall is used for design purposes, however, and not as a technological expression.

On the Egyptian Chambers (8), to provide an additional sense of depth, the stacked bands are stepped back as they rise. At the top of the structure, the cornice is pushed forward to the building line and provides the appearance of an overhang. The individual elements of each band of the Grosvenor Building (20), different as they are from each other, are also organized vertically. As a flat wall surface between window frames flows into a rectangular pier, it rises into an attached column and is then capped by a dwarf column. The solid-to-open progression is defined by the stone, the openings, and the changing relationship of the two. Although the style, spacing, and patterning of each horizontal band are discrete, they are vertically united by this relationship. Design precedent for this stratagem can be found in the Ptolemic Temples, where columns rose vertically between attached screen walls, and where the spaces between columns appeared not as a porch or colonnade, but as a large puncture or window. Thomson appears to have combined a number of these components to form his vertically banded façades.

Just prior to and during Thomson's years of practice, the great antiquities of Egypt, Greece, and Rome were exhaustively recorded in such books as Antiquities of Athens by Stuart and Revett and Egypt and Nubia by Roberts. The buildings of Egypt, in addition to their exotic appeal, bore a certain affinity to the traditional structures of his homeland. 12 St. Vincent Street Church.

11 St. Vincent Street Church.

13 Ellisland.

14 Oakfield Terrace.

16 St. Vincent Street Church.

17 St. Vincent Street Church.

19 Egyptian Chambers.

20 Grosvenor Building.

Thomson's Glasgow

The Egyptian structures were masonry, gravity bound, rooted in the earth, and the mason's craft was highly visible in each façade. Although they were large and constructed by techniques not fully understood, they appeared simple in form, mass, and element. Thomson utilized these images rather than the funerary symbols of Egyptian architecture that other practitioners would later employ for different purposes.

The interiors

The St. Vincent Street Church is a testament to Thomson's skill at manipulation of large interior spaces. It is a progression of rooms: stone entry and vestibule, painted skylight lobby (21), and wood and painted sanctuary (22). Movement is from small to big, from daylight to modulated light. This is not an unusual architectural succession of spaces, but how it is achieved is exceptional.

The dark exterior (3) prepares the visitor for the elevated vestibule entry; then one proceeds up to the large lobby awash with natural light from a skylight and translucent windows, and finally into the sanctuary glowing in natural light reflected from wood and warm paint colors. The visitor always moves upward in space, expecting to arrive in what appeared from the outside as a Greek Revival temple. But the volume of the sanctuary is much greater than anticipated, because it also occupies a significant portion of the Egyptianlike base, resulting in one room within twodifferent exterior forms. To control this large space and not to overwhelm the worshipper, Thomson directed its focus to the pulpit (23). This 20-ft-tall furniture piece repeats exterior building forms in wood and is the center for the curved seating.

Precedent for Mackintosh

Thomson's work relates to that of other Classical practitioners, but of more interest is that it probably served as a precedent for some of the architecture of Charles Rennie Mackintosh. The two architects appear to have more in common than their Celtic ancestry and the city in which they practiced. Although there is no documentation that Mackintosh studied Thomson's architecture, it is hard to imagine that his trained eye did not analyze his predecessor's buildings. At least three Thomson buildings, including the Grecian Chambers (1) and St. Vincent Street Church (3), were within a four-block radius of the Glasgow Art School. Another group was also close to the Glasgow Herald Building on which Mackintosh worked as an apprentice.

Both architects chose to approach design as part of the masonry tradition. They did experiment with the emerging technology of iron and glass, but the use of these materials did not constitute a major area of exploration or result in significant structures. They used them instead as decorative elements and as implements for design ideas, such as assisting in the span of a large room or supporting large glass areas.

21 St. Vincent Street Church.

22 St. Vincent Street Church.

25 Mackintosh: Science and Art Museum

27 St. Vincent Street Church.

Aside from general connections, there is a more specific case to be made for Thomson's influence on Mackintosh, especially in the areas of composition, pattern, and ornament. While Mackintosh was a student, he executed an 1890 competition design for a "public hall" in the "early Classic style" that received the Alexander Thomson Travelling Scholarship (24). His proposal composed a symmetrical, colonnaded, templelike structure on a large, almost totally solid stone base. The same description could be applied to another competition design of 1890 for a Science and Art Museum (25). The strong base element and entryway also bear a resemblance to Thomson's public buildings.

Thomas Howarth, in Charles Rennie Mackintosh and the Modern Movement, criticizes Queen's Cross Church (26) as, among other things, not "unified" in composition. While this early freestanding building bears only slight resemblance to Mackintosh's later work, it does, however, follow the pattern of corner-tower churches (many Classical and Gothic Revival examples exist in Glasgow) and of Thomson's three large churches that are combinations of various elements including predominant towers. Mackintosh's solution does not range as far afield for inspiration, but combines English, Neo-Gothic, and some of his own self-styled elements.

Both designers developed unique decorative patterns employed to support their architecture, whether carved in stone or wood or stenciled on plaster. Howarth states: "Contemporaries of The Four (Mackintosh, Mac-Nair, and the MacDonald Sisters), however, usually ascribed their peculiar mannerisms to Egyptian influence . . . this is hardly surprising, especially in Glasgow where the exotic Greco-Egyptian decorative schemes of Alexander Thomson had scarcely ceased to be a source of wonder and astonishment." It is difficult not to note the similarity of the stencil patterns employed by Thomson on the pulpit of the St. Vincent Street Church (27) to designs later developed by Mackintosh and his contemporaries.

During the last decade, at least ten catalogs and books have been published about Mackintosh's drawings, watercolors, furniture designs, and decorative arts work. While Howarth's book was written in 1952 (and reissued in 1977), it remains the only comprehensive one in English documenting his architecture. Recently Ronald McFadzean published Alexander Thomson (A Record of His Work), an outgrowth and further development of a doctoral thesis. These books serve as the only broadly detailed source of information about the buildings.

In historical anthologies of Glasgow architecture of 1850 to 1910, only the work of Mackintosh is usually described as unique. His use of traditional vernacular features is frequently mentioned, but any reference to the work of his predecessors is usually omitted. Unfortunately these accounts overlook the efforts of Alexander Thomson.

A high down under

Jennifer Taylor

John Andrews' house in Australia is a prototype that combines traditional forms with prefabricated technology and energy efficiency.

After years as one of the best known architects in North America, for buildings such as Ontario's Scarborough College and Harvard's Gund Hall, John Andrews withdrew to his native Australia. Recently he built his first house, for himself, on a farm in New South Wales. The house, shown on facing page from the southwest (top) and east, is built around an energy tower and surrounded by seven large water tanks.

Jennifer Taylor is Senior Lecturer at the University of Sydney School of Architecture.

The John Andrews house at Eugowra consolidates much of the theory that has characterized both Modern and Post-Modern architecture, and through the synthesis presents a rational architecture in a compelling regional language. The house is concerned with the question of sensible domestic design in Australian country areas and is intended to provide an example for the utilization of passive energy systems under demanding climatic conditions. In these respects, it is an imaginative and pragmatic building. But it also exhibits interest in the more esoteric concerns of ceremony, imagery, and even nostalgia in architecture. Like some of its well-known predecessors in Modern design, the Eugowra house is an "ideal" pavilion that accepts few compromises and refuses to bow to the dictates of conformity.

From the beginning of his career, Andrews has been involved with large projects, so this was his first building of domestic size since student days. The house has been in the phases of conception, development, and construction for five years. Its history goes back to the major recession in the building industry in Australia when Andrews, with time on his hands, designed two houses near the sea for his family. Neither was realized, and he decided to build instead on property at Eugowra in Central New South Wales, for which he did a design previous to this one. All four designs, however, were based on Andrews' experience of living in a small, oldstyle homestead at Eugowra.

The traditional homestead

The Eugowra house belongs to the Australian homestead tradition, and here Andrews has employed the virtues and challenged the inadequacies of the standard type. The vernacular homestead was based on the Georgian cottage model introduced to Australia with the first settlers at the end of the 18th Century. Its roots, therefore, were Classical and its form symmetrical. The hot climate led to the addition of the encircling veranda, initially to protect the walls and windows. Over time, the conventional plan of a central corridor with two or three rooms to each side persisted. Yet while the corridor provided a cooling breezeway through the house, the rooms along its length prevented crossventilation. So the open verandas often became the living and sleeping areas in the summer months. Timber and corrugated iron replaced the expensive and not easily

transportable stone and slate of the English cottage, and the roofs became high-pitched to allow for the ventilation and therefore cooling of the air space between the roof and the flat ceilings.

In recent decades, the established farmhouses often have been abandoned. Faced with the enormous task and cost of updating and caring for the old buildings, it is not surprising that all but the wealthy farmers have chosen the easy alternative of a readily available standard developer house. For the most part, these follow the brick and tile suburban models of the large cities. In comfort, convenience, and appearance, they are unsympathetic to country settings. The Andrews house aims to demonstrate principles that can be adapted to upgrade the amenity of new dwellings for this generally rural market. With the exception of houses, prefabricated rural buildings, appropriately designed for use and location, are available on order from manufacturers' catalogs. The ultimate aim of the Eugowra design is a prototype dwelling that can be obtained in a similar manner.

Eugowra

Eugowra is 210 miles northwest of Sydney. The Andrews property is 3000 acres of sheep- and cattle-rearing land in these last western foothills of the Great Dividing Range. It is a typical, rugged Australian landscape with gray-green trees thinly scattered through the grasslands. In good seasons with abundant rainfall, the house is surrounded by the undulating dull green expanses of the pastures, and in dry seasons by the reddishbrown soil of the depleted paddocks. The winters are pleasant with occasional frosts at night, and the summers are hot and dry with temperatures reaching 110 F.

The existing farmhouse provides accommodation for his four sons and guests. The new house is the hub of the complex and is occupied primarily by Andrews and his wife. It is sited in smooth lawns on a level podium above and to the east of the older dwelling. It faces north with extensive views over the fields to the mountains beyond. On the other three sides the land rises to granite hills. There were few nearby trees; an orchard has been planted to the east, and durable native species have been introduced in places to help modulate climatic conditions.

Living (above) and dining (top) areas are deployed on either side of a massive fireplace, which occupies the absolute center of the house. The rough brick walls are placed on either side to absorb and retain its heat. Facing page: The eastern façade, shown in detail (left top), from inside (right top), and from the northeast (bottom). The anomalous bathroom alcove sheathed in acrylic affords a panoramic view of the landscape. Throughout, it is a formal work of architecture, with the ceremony of its use starting at the entrance gate, continuing along the approach, over the small bridge that crosses a water culvert to the northeast, and on to the raised projecting portico that marks entry. Within the building, this is furthered by the orderly disposition of the spaces in symmetrical balance about both axes.

In consideration of distance, the highest criteria for construction were time spent on, and trips made to, the site by the various trades and the use of easily transportable materials. The refined light steel frame was prefabricated in Sydney. It is enclosed by fixed glass sheets, insulated panels externally clad with horizontal galvanized corrugated iron sheeting, and side-hinged doors with double-hung glass. The roof is of corrugated iron. While iron is notorious for its heatabsorbing properties, it dissipates its heat load quickly. The roof and wall iron is heavily insulated, and the roof is equipped with fine water jets to spray the iron under extreme conditions. Water that is not evaporated returns to the collection tanks. Services are located in the concrete floor slab and pass vertically through the wall spaces. Erection was simple and straightforward. It is a "pure" structure in the Miesian sense, with a defined regularity and articulation in all of its parts.

Shelter and symbol

The primary premise was climatic comfort with low energy consumption. The pivotal point of the design is the steel-framed energy tower that pierces the roof and rises well above the ridge of the vault. At present it supports the header water tank, the lightning conductor, and the chimney. It is planned to house the solar collectors and tank, also, and a wind-driven motor to raise the water. The roof of the house is of a lower pitch than is customary, and this adds to the predominance of the capping vault and tower. Also prominent in the design are the seven large holding tanks placed under the eaves at the corners of the buildings. Andrews quite rightly has described the house as "an architecture of water collection." (The significance of rain in these often drought-stricken areas is stressed.)

With his modifications of the Colonial house plan, Andrews inversed that concept. The usual flexible veranda zone now houses specific spaces, and the divided internal core is replaced by the large open space of the central living-dining room. He considered that for Australia, the north (sunny side) veranda alone made climatic sense, with those to the south, east, and west being of little value, as the sun angle at these points is too low for horizontal protection to be effective. So the perimeter areas, with the exception of those to the north, are used as rooms. Exterior meshed enclosures covered with deciduous vines give summer shade and allow sun penetration from the west in winter.

For summer conditions, the house is oriented to take advantage of winds passing over the dams, and the cool corner water tanks induce air movement, which is directed into the house by the diagonal timber-clad partitions that also serve to brace the steel frame. The doors, with their adjustable glass panes, are located directly adjacent to these walls and control the passage of air into the building. Ceilings follow the roof pitch, and warmed air is released through the open ends of the barrel vaults that straddle the ridge. These glazed openings of the vaults allow light and shafts of sun into the interior. All rooms open off this central space, which thus serves as the circulation area of the house. Partitions rarely rise above door height, and with the exception of the guest bathroom, internal doors do not exist. Sunlight and breezes move freely through the house.

The extension of the bedroom to form the bathroom alcove is eccentric in the design. The curved form of its transparent acrylicsheathed steel frame protrudes from the eastern wall and at night appears as a bubble of light. The conquering of inhibitions is rewarded by the pleasure of showering in the sun and space of Australia. With its white

Data

Project: Andrews House, Eugowra, Australia. Architect: John Andrews International Pty. Ltd. Client: John Andrews. Site: 3000 acres of cattle land in foothills.

Program: a two-bedroom, highly energy-efficient residence of 3500 sq ft, including garage. **Structural system:** prefabricated light steel frame, poured concrete podium, poured concrete columns at water tower base. **Major materials:** heavily insulated corrugated iron roofing and wall panels, double-hung and sliding glass, slate and pine flooring.

Mechanical system: natural ventilation, water jet spray for roof cooling, brick walls flanking fireplace for heat storage, ceiling fans to force hot air down. Consultants: Ove Arup & Partners, structural; D.S. Thomas Consulting Engineers, mechanical. Costs: \$120,000 (Australian).

Photography: David Moore.

marble/terrazzo stairs and sunken floor, its formal balance, and the focus on the shower recess placed directly on the central axis, this is the most obviously ritualized space in the building. To the west, the kitchen conforms to a visually shielded island space that does not present a barrier to communication with those in other parts of the building. The southern veranda area is occupied by the guest "sleep-out," second bathroom, and laundry.

Earth banks to the southwest are placed to deflect the winter winds over the building. The only heating is provided by the central fireplace and combustion cooking stove in the kitchen. The fireplace, "big enough to roast a whole sheep," serves both the living and dining areas. Its rate of burning and heat output is regulated by a large black hood that can be raised or lowered on steel chains. Ceiling fans hung from the vaults, contrary to their normal use for cooling in summer, are intended to operate in winter to force risen hot air back down into the rooms.

The fireplace is defined at each corner by the cylindrical concrete piers that support the tower. It is flanked by two freestanding 5'-6" curved brick walls, with protective rendering on the convex surfaces that back towards the fire. Their purpose is to store and distribute heat through the room. These walls visually interrupt the space, and their rough texture and hard-edged forms seem out of place when seen against the refinement of their context. This disturbing contrast possibly was intentional, to allow Andrews to make his point clear about what he calls "reversed brick veneer"; that is, utilizing brick for its heat-absorbing and retaining qualities inside, where it is protected in summer and warmed in winter, rather than exposed on the exterior as is common practice. The price is a disruption in the continuity and character of the room.

Finishes and details are precise, and materials are virtually maintenance free. There are no draperies or blinds, so the glass walls are left uncompromisingly bare. Visual and acoustical privacy are virtually unknown. Andrews rationalizes this with the fact that it was built for himself and his wife, and the observation that in the country "you might as well enjoy the view as there is only a cow to look at you anyway."

Comment

This house marks a change of emphasis in Andrews' architecture. The studied formality is contrary to his usual work; so too is the self-conscious regionalism. Today, Australia is a land of city dwellers, and the identity that this house projects is mainly mythical. Some myths are worth sustaining. This one contributes to an essential Australian folklore. The wide sheltering roof, the bold energy tower, the bulging water tanks, and the place of the fire in the heart of the building make the strongest image—that of sustenance and shelter in harsh environments.

Only with time can assessment be made of the value of the house in presenting alternatives to the inappropriate design that has characterized recent Australian country houses. The building is far from an average worker's dwelling, and its viability as a direct model, even for principles, to a certain extent must be limited. In the use of a lightweight structure and mostly readily available materials, and in the planning to optimize the best qualities of the Australian climate, it may prove successful. It has weathered well the test of late summer conditions. Still, concerning climate and low energy consumption, it remains an experimental solution that in some regards has to be completed and tried. It could achieve an additional measure of success by demonstrating the possible refined use of what, in rural areas, are regarded as materials and technologies unsuitable for domestic buildings. It will be interesting to follow Andrews' application of the lessons of this design into a marketable prototype.

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Energy design of office buildings

This article in the energy-conscious design series will feature the office building research portion of the redesign experiment described in the April issue of P/A (pp. 110–115). It focuses on the key energy design strategies, used by the redesign teams, which contributed to the substantial annual energy reductions accomplished through the office building redesigns.



Contributors: A number of individuals and organizations have contributed to the development of this article. Principal researchers: Harry Misuriello, Principal, W.S. Fleming Associates; Joseph J. Deringer, President, Gilford, Deringer and Company.

Researchers: James Binkley, Chief, Architectural and Engineering Systems branch, DOE; John Stoops, Project Manager, and Ray Reilly, Program Manager, Battelle Pacific Northwest Laboratories; John H. Cable, Principal, The Ehrenkrantz Group; Richard Menge, Director of Architecture, Greenhorne & O'Mara; Roger Easley, Consultant to Battelle; Santiago Moreno, Mike Gilford, and Richard Meilan, with Gilford, Deringer and Company. As the classic example of commercial buildings, offices were chosen as an appropriate beginning of this series. For the redesign experiment, 22 office buildings ranging from a 3800-sq-ft one-story branch bank to a 637,000-sq-ft 29-story office tower were statistically selected. Half of the buildings were less than 50,000 sq ft, a nominal dividing line between small and large offices for the research. They were located in a wide variety of climates (Figure 2).

Of the 16 building types chosen for overall study, the office building redesigns benefited from some of the largest energy reductions from their original designs. Designers of small office buildings accomplished a 50 percent average annual energy reduction, from 77,200 Btu/sq ft/yr to 39,000 Btu/sq ft/yr. Large office buildings achieved a 42 percent reduction, from 69,000 Btu/sq ft/yr to 40,300 Btu/sq ft/yr. These substantial cuts were accomplished with an estimated 3½ percent average increase in first cost of construction.

Energy design considerations

Office energy requirements for thermal comfort, ventilation, and lighting vary within relatively narrow ranges, except for special functions such as computer centers. Unlike hospitals or restaurants, offices tend to be occupied during regular daytime hours. At night and on weekends, they are often vacant or only sparsely occupied. During office hours, high internal thermal loads can occur from lights, equipment, people, and external solar gain. With a reasonably "tight" envelope, such heat gains can lower the "balance point" (the outside temperature below which a building needs to be mechanically heated) to 40 F or below.

Conversely, the building may need to be cooled while outside temperatures are as low as 40 to 50 F. Control of heat gains can therefore be a predominant energy conservation consideration for occupied periods. At night, during the heating season, peripheral heat gain sources are normally absent and the temperature is lower. Thus, control of conduction and infiltration losses can be a predominant consideration. In warm climates, control of gains can be *the* dominant energy factor.

Superimposed on operational regularity is a fluctuating office building layout, changing with the needs of its occupants. A typical design response to the problem of interchangeable space requirements is the use of grid lighting systems that are often controlled in banks by circuit breakers. Such systems can cause large areas to be lighted needlessly for cleaning crews or a few offhour workers.

There is a variety of interrelationships between energy design considerations. Lighting, for example, is both a major energy end use in office buildings and a major contributor to internal loads. Therefore, energy-conscious design strategies will contain both diurnal and seasonal aspects and take into account many interrelated internal and external factors and their relationships to the building program.

Multiuse office buildings present a more complex design and analytical challenge. Their numerous secondary uses can significantly affect design solutions and annual energy consumption. Nearly 40 percent of the designs studied have varying amounts of non-officerelated space, although this occurred more frequently in the larger buildings.

Standardized building operating conditions (Figure 1a) used in the computer analysis represent the average operation profile for office spaces reported by the redesign teams. Additional profiles were also used depending upon the functional space mix in a specific building. Despite the similarities in space type and operation, the average annual end use characteristics of the large and small office redesigns appear to be independent of size. Lighting and space conditioning are found in roughly the same proportions in either case and account for over 90 percent of total energy use in both the original and redesigned small and large office buildings (as well as in the ASHRAE Standard 90-75R evaluations). The real difference between



large and small offices may lie not so much in end use as in the choice and application of particular energy conservation strategies.

Optimizing thermal gains and losses

Orientation, form, envelope, and lighting are the basic design strategies used to control thermal loads. The diversity of solutions possible by combining options is illustrated by the seven redesigns shown in Figure 3.

Orientation: Over half of all the redesigns used reorientation for solar control by siting the building's longer elevation along its east-west axis. A small office in Wisconsin (Building No. 1), for example, oriented its light scoops and attached sunspace due south for maximum solar contribution. Similarly, the recessed fenestration and newly elongated form on a large office in Connecticut (5) was turned toward the sun.

Form: In only a few instances was the building form left unchanged from its original design. Reducing the surfaceto-volume ratio was tried in a small office in Bakersfield, Ca (11), in a climate where cooling loads dominate. Less roof area is exposed to the sun, controlling conductive solar gain. Stairwells and mechanical spaces were moved to the southern exposure as unconditioned buffer zones for control of solar gain, and glazing was eliminated from east and west façades. One means of controlling heat loss from glazing, while admitting natural lighting, is to use a central interior atrium as in the Pennsylvania large office (15). Its slightly elongated form was also compacted around the atrium, providing a more advantageous surface-to-volume ratio.

Envelope: An important redesign trend was the nonuniform treatment of glazing and shading for each exposure. In all but the most severe cooling-load climates, glass distribution generally "migrated" towards the building's southerly exposure and was minimized or eliminated on the north, east, and west. Such migration was not so pronounced for large offices. But a combination of glass types and interior shading devices was selected to provide appropriate window shading coefficients for each exposure regardless of building size.

In a small building (4) in Minnesota, glazing was eliminated completely on the north and concentrated on the south exposure. With the glazing shaded in summer (but not in winter) by a series of set-in overhangs and using slanted glass, solar gains to the conditioned space are controlled seasonally. By contrast, in a



FIGURE 2: 22 BUILDINGS IN 17 CITIES IN CONTINENTAL U.S.

climate where the predominant load is cooling, a small office (10) in Louisiana redistributed most of its glazing to a north-facing clerestory, which accommodates both daylighting and solar control. These examples are interesting because they all seem to be reasonable, given the *other* design strategies that were employed. In other words, orientation, form, and exposure treatment are all interrelated; one cannot be viewed completely apart from the others.

A third of the small office redesigns, predominantly buildings of less than 20,000 sq ft, used either direct gain or passive thermal storage strategies. Unlike large multizone offices, these smaller buildings have less distinction between interior and perimeter zones, and it is easier to locate the storage mass in physical proximity to both the solar aperture and the conditioned space. Both large and small office redesigns, however, used orientations, form, and fenestration to control and use solar gains on a seasonal basis even without thermal storage.

Conduction: Strategies aimed at reducing conduction losses can be important in climates where night heating is of concern. In nearly 75 percent of the office redesigns, the trend was to improve the composite "U" factor of the envelope as shown in Figure 1d, by manipulating the component "U" values of walls, roof, and glazing. Also, glass area as a percent of wall area tended to diminish as did roof area as a percent of total exposed area. In predominantly heating climates, wall and glass "U" factors of the small offices were improved only slightly. In cooling climates the redesign trend was to add double glazing. Glass area was reduced in all climates, except in those instances when it was increased in conjunction with passive thermal storage, direct gain strategies, or daylighting. Although the average composite "U" factor for large offices was reduced, the changes in individual component values did not reveal any particular trends. Such differences illustrate that overall thermal integrity in



FIGURE 3: EXAMPLE REDESIGN EFFORTS: FORM, ORIENTATION, WINDOW PLACEMENT

1

Life cycle cost analysis (LCC)

Detailed life cycle cost (LCC) analyses were conducted on three all-electric office buildings (4, 17, and 18) to learn more about cost effectiveness at various energy levels. Energy analyses and detailed cost estimates were made for additional conservation strategies. For the three buildings, design energy consumption estimates in the mid or low 20,000 Btu/sq ft/yr range wre obtained. While not completely analyzed from a building owner's or developer's perspective, the majority of design strategies were cost effective when compared with the original buildings. based upon Federal Government LCC economic parameters and a projected 40-year building life.

Figure 4 shows selected results of design changes from those tried on the large office in Raleigh, NC (18). Even with an efficient lighting system, about half of the annual energy for the redesigned building was for lighting. Daylighting and task lighting became obvious targets of opportunity for further reductions. Several alternatives were tried. In one, the A/E team reconfigured the building to make daylighting available for over 40 percent of the office space. An alternative with no glazing on east and west walls still provided more access to daylight than the redesign. These solutions used daylighting and task lighting and resulted in 15 to 20 percent energy reductions from the redesign, as did a task-lighting strategy based on the redesign.

ASHRAE Standard 90-75R analysis

Among the results of the redesign experiment was an analysis of ASHRAE Standard 90-75R, which forms the basis for building energy code requirements in over 47 states. The original office building designs were configured to meet an exact interpretation of the requirements of Standard 90-75R and analyzed with the same computer program and operating profiles used for the original buildings. In all but one instance, the application of Standard 90-75R caused annual energy consumption to decrease by an average of over 27 percent in all offices (Figure 5). In most cases, the office redesigns reduced energy levels to below those resulting from Standard 90-75R. For small and large office redesigns, additional savings of 32 percent and 17 percent, respectively, were achieved. The energy performance of the rest of the redesigns demonstrated that there was room for improving the stringency of these minimum code requirements.



FIGURE 4: ENERGY AND COST RESULTS FOR NINE ALTERNATIVES TO PROJECT 18, RALEIGH, N.C.

small offices, with their higher surfaceto-volume ratios, is generally more important than in larger ones.

Lighting: Nearly all the redesigns reduced the installed lighting capacity in watts per sq ft (Figure 1b). On the average, installed capacity was reduced from about 2.7 watts/sq ft to around 1.7 watts/sq ft. The redesign teams used one or more of the following: reduced illumination levels; more efficient fixtures, lamps, and controls; task lighting; reduced use of incandescent fixtures; and daylighting. These strategies lower annual lighting energy consumption, help control heat gain in conditioned spaces, and reduce cooling loads on HVAC systems.

Daylighting strategies of many variations were tried in two-thirds of the office redesigns. Unfortunately, the computer model used in the redesign analysis could not evaluate daylighting at that time, so the potential energy reduction is not known. While a limitation, it does highlight that the average 38 to 40 percent annual lighting energy reduction was achieved by "conventional means." Daylighting can reduce artificial lighting energy use even further and therefore has significant potential (Figure 4).

As shown in Figure 1c, large office lighting system controls are far more complex than those in small offices. Some of these control types were to implement daylighting strategies (e.g., photocell controls), but can also be used to control lighting use during fully or partially unoccupied hours by using switches instead of circuit breakers.

The redesign results suggest that effective lighting strategies are not dependent on building size. Building size, site, and function mix, however, can have a bearing on which lighting strategies are appropriate.

HVAC systems: There was a strong trend toward the use of more energy efficient HVAC systems (Figure 1e). Larger offices used more variable air volume (VAV) systems while heat pumps became dominant in small offices. Use of less energy efficient constant-volume systems (either single or dual duct) was reduced by approximately half. Five of the eleven small offices switched to predominant or total use of hydronic heat pumps. Also, the two larger offices, which switched to heat pumps, were less than 60,000 sq ft in gross area.

Small office HVAC systems tended to use unitary or rooftop equipment, while central systems were more prevalent in the large offices. In large offices, moreover, a significant shift away from separate heating and cooling plants toward combined systems using heat recovery was observed. While only one of the original offices used chiller heat recovery, five of the redesigns incorporated this strategy.

Cooling with outside air using an economizer cycle is a simple and reliable strategy that was already used by nearly half of the original buildings. Four of the remainder adopted them as part of the redesign. Those that did not used natural ventilation strategies instead.

The control of the total building thermal load through architectural and lighting strategies was probably a major influence in reducing the installed cooling capacity from the original to the redesign, primarily in the small offices. The specific reasons for this trend are not clear, as a detailed analysis of equipment sizing was not performed.

Among HVAC control strategies, a space temperature deadband was most frequently specified. In those buildings that originally employed this control strategy, the deadband range was typically extended by a degree or two. The effect of this strategy on annual space conditioning energy consumption could not be determined for the redesigns, as the computer model was not able to simulate it. However, the ASHRAE Standard 90-75R results shown in Figure 5 were analyzed a year later after the deadband capability had been added, and include a 10 F deadband for buildings with appropriate systems. This limitation implies that space conditioning energy reductions for the redesigns are understated.

Observations and conclusions

Some overall lessons of the office redesign process:

• It is important to interrelate energyconscious design strategies to achieve effective control and reduction of energy usage.

• Energy-conscious design strategies need not be exotic. Careful and thoughtful combinations of "conventional" design strategies were effective for a number of buildings.

• Control of heat gains, especially from lighting and solar, is an important design consideration for occupied and unoccupied periods.

• As a building design becomes more energy efficient, the major targets of opportunity can shift. Typically, lighting energy strategies become more important.

The office building redesign experiment left many unanswered questions. For example, because consistent and detailed cost data reporting was not required, it is not certain whether the redesign strategies were cost effective. This was a major shortcoming in the redesign research effort. From a technical standpoint, complete energy estimates for the performance of passive solar redesigns were not obtained, as the computer program used in the analysis was not oriented towards these strategies. Similarly, daylighting systems could not be modeled, and the energy results do not include these strategies. Many current energy analysis programs, however, do not have these limitations. With the exception of the three offices used in the LCC analysis, no follow-up reporting was done to compare actual energy consumption of the original buildings to the research estimates. For the three LCC buildings researched, however, this comparison was reasonably close.

While the research has certain shortcomings, it has also produced design energy targets for office buildings that are technically achievable. Recent studies and articles have contained reports of both current energy-conscious building designs and recently constructed buildings with annual energy performance in the range of the redesigns. But more must be learned about the cost effectiveness of design strategies. Efforts are now underway to identify cost-effective energy design strategies for small offices, using the redesign experience as an effective point of departure.



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Norman Coplan Professional services for a government body carried out before the appropriation of special funds and without a proper contract can result in loss of compensation

Funding and contract for government work

When an architect renders professional services to a municipality or other governmental body, his fee may be in jeopardy if specific funds have not been appropriated to compensate him, or if he is performing services without a formal contract in conformity with statutory requirements. It is not uncommon for a public official, because of the pressures of time, to authorize an architect to commence his services before funds have actually been appropriated and/or before a formal contract has been executed and approved by the necessary officials. If, under such circumstances, the architect renders services, but the project is thereafter abandoned, the architect, when seeking to collect his fees for such services, may well be met with the defense that either his agreement with the municipality is void because of the lack of appropriation, or in the absence of an agreement, the authorization to proceed created no right to compensation because a public official, even though acting on behalf of a municipality, may not waive its rights.

On the other hand, an architect may be in a position to recover some measure of compensation if he can establish that the municipality has financially benefited from his services and that its failure to compensate him would constitute an unjust enrichment. This is illustrated by the case of Vrooman v. Village of Middleville, 436 NYS 2d 662. In this case, the plaintiff, an engineering firm, sought recovery of fees for professional services rendered to a village in the sum of approximately \$62,000. These services were rendered in connection with an order by the State to the Village that it cease and abate all discharges by it or through its outfalls of sewage and other wastes into the waters of the State. The engineering firm performed certain en-gineering services in planning sewers and sewage treatment facilities and obtained the approval of its plans by the State. The Village, however, resisted payment of the engineer's fee on the ground that its agreement with the engineering firm was unenforceable and void because no appropriation had been made or funds authorized to be borrowed covering such expenditure.

Under the Village law, there was an express requirement that "no expenditure shall be made, nor shall any contract which in any manner involves the expenditures of money or the incurring of any pecuniary liability be entered into, unless an amount has been appropriated for the particular purpose and is available therefore or has been authorized to be borrowed pursuant to the local finance law." The Court, however, ruled that since there was a resolution that was adopted by the Village authorizing the issuance of certain bonds for the construction of a sewer treatment plant and collection system, thus providing funds for the project, this was sufficient to defeat the Village's position that its agreement with the engineer was void.

Of more significance, however, the Court went on to consider the question of whether the engineer would have been entitled to the reasonable value of his services to avoid an unjust enrichment on the part of the Village if the Court had concluded that his agreement with the Village was void. In this connection, the Court relied upon an earlier decision involving a claim for damages by the lessee of certain airport property which had been leased to it by the city in violation of an ordinance that prohibited the leasing of any airport property to another for other than airport purposes. The lessee, acting in good faith and in reliance upon the execution of the lease, spent substantial sums to renovate and modernize the air terminal building. The Court ruled that while the city was not estopped from voiding the lease because it was in contravention of law, it could not be permitted to unjustly enrich itself by doing so without liability to the lessee for damages. Applying the principle of that earlier decision to the engineer's claim, the Court in the Vrooman case stated:

"The court is also of the opinion that if the contract were void as alleged by the defendant, it appears that, in view of the State mandate of the Department of Health that the said sewer system be constructed and the duty then imposed on the Village, the plaintiff would be entitled to recovery under quantum meruit which is alleged in the complaint. The plaintiff acted in good faith, rendered substantial services to the Village and provided the Village with an approved set of plans for the construction of sewers. The Village should not be permitted to unjustly enrich itself by virtue of any actions taken in excess of its authority."

As a further defense to the engineer's claim, the Village took the position that its understanding with the engineer was that his fees would be contingent upon Federal funding. In support of this contention, the Village relied upon a letter written by the engineer to the Village in which it was stated that the engineering costs were in accordance with State-approved guidelines and that the cost of construction as well as engineering fees are subject to the State bearing 60 percent of the cost and the Village paying only the remain-ing 40 percent. The Court, however, after reviewing this letter, together with the contract between the parties, concluded that the lan-guage of the letter "was merely intended to clarify the pro rata sharing of payment should a grant be received," and the Court found no evidence in support of the argument that the engineer's compensation was on a contingency basis.

Since professional services rendered to a municipality do not necessarily result in any financial benefit to the client if the project does not go forward, an architect can insure his fee only by refusing to perform until funds have been duly appropriated and a proper contract is executed. \Box



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Back down under

Books



John Andrews: Architecture a Performing Art, by Jennifer Taylor and John Andrews. New York, Oxford University Press, 1982, 176 pp., \$39.95, \$19.95 paper. Reviewed by Romaldo Giurgola, Mitchell/Giurgola Architects,

Reviewed by Romaldo Giurgola, Mitchell/Giurgola Architects, partner in charge, Parliament House, Canberra, Australia (P/A, March 1981).

John Andrews' work during the past 25 years has left a unique mark on North America and Australia, and his buildings are the product of perhaps the most gifted mind in architecture that Australia has produced.

The new book on John Andrews' work recently published by Oxford University Press represents an equally unique and imaginative approach to the production of a book on architecture. The texts of architectural books in general are notoriously boring; with few exceptions, such texts are unreadable and often stand in opposition to the visual material which they are intended to explain. By contrast, Andrews' new book is a successful integration of text, graphic material, and photographic documentation, and all are of high quality.

The source of this unique integration lies in the fact that this essay was not originally conceived by Andrews as a book, but rather was initiated as a record of experiences from which his students might learn. The book is introduced and edited by Jennifer Taylor, who is an architect and critic at the University of Sydney; the body of the text also incorporates dictated comments by John Andrews on each project. In this form, the book reminds one of Palladio's way of recording his work: the same straightforward attitude is present here, that same directness in producing pertinent information which relates events, conditions, and philosophy to the completed work and to the larger concepts of architecture.

Each project is introduced by a critique written by Taylor, followed by Andrews' comments, which generally consist of statements about the problems of each commission, the evolution of the design process, and the eventual architectural solution. These comments always include a pointed, humorous, [Books continued on page 121]



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Books continued from page 119



Gund Hall, Harvard University, Cambridge, Ma.

angry, or ironic (and yet understanding) description of client relations, programs, and work procedures. While these descriptions occasionally result in a text which is longer than necessary, they nevertheless reflect an essential characteristic of the process of arriving at architecture. Andrews displays unusual candor in admitting that architecture is influenced by the particular conditions surrounding the commission and construction of buildings. When one reflects on the innumerable interests, attitudes, participants, and uses to which architecture must respond today, it is clear that these conditions become an inseparable element in the final result. That brings us to the core of the book: the relationship between these conditions and the work of John Andrews.

Most of the designs included in the volume have been built. This makes perusing its pages a refreshing experience, since many recent books on architecture refer primarily to unbuilt projects or small buildings. The works presented span the years from 1958 to 1981. They vary significantly, ranging from innovative large-scale complexes to the intimacy of the family house; from energetic impositions to careful adaptations to the natural setting; from tool-like instruments to suggestive poetic images. In short, they constitute a body of architectural work designed and built during a bewildering period of cultural complexity.

John Andrews received his first architectural education at the University of Sydney. He later studied at the Harvard Graduate School of Design at a time in which two different architectural attitudes dominated American design: The NeoClassicism of Mies van der Rohe and the IIT in Chicago, and the rationalism of Walter Gropius at Harvard.

At Harvard Andrews studied with Siegfried Giedion and Josep Lluis Sert; his years there came substantially later than the postwar generation of Harvard students such as Edward L. Barnes, Henry Cobb, I.M. Pei, Paul Rudolph, and Ulrich Franzen, and he was thus able to remain totally independent from that generation's work in his conceptual and formal development as an architect. Instead, his Australian roots are of great significance in that development, roots which allowed him to approach problems with an uncompromising attitude, resulting in forms that are essentially generated by a fresh interpretation. Andrews has noted that during an architectural "grand tour" of Europe, the Middle East, and India in 1961, he was far more impressed with vernacular architecture than with the work of the masters; he was struck with its simplicity of idea, and its direct derivation from a program for life.

During his years in North America, John Andrews produced a number of buildings which represent the substance of his evolution as an architect. Scarborough College of the [Books continued on page 122] Michigan department store aisles renovated with high-traffic Hartco oak flooring.



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Books continued from page 121

University of Toronto is more than a breakthrough; it is a statement of already mature convictions. Its form, generated by the confluence of human activities, orientation, and relationships with the natural site, has a fundamental character free of those stylistic preoccupations which affected the work of many architects at that time, whether in Europe or America. It is interesting to note that Scarborough was conceived in 1963, earlier than James Stirling's colleges at St. Andrew's, to which it bears an apparent conceptual similitude.

But while Stirling's "formal machines" (as they have been called) remain abstract structures, the architecture of Scarborough extends vigorously into the site as the spatial, structural, and textural elements become one with function, thus producing an architectural atmosphere of great vitality. Upon its completion, Scarborough was particularly welcomed by young architects, as they saw in its design the signs of a fundamental revitalization in architecture.

The experience of Scarborough was extended and perfected in other buildings, and was sublimated in Gund Hall, the new building designed for the Graduate School of Design at Harvard in 1968. In conceptual terms, its design explores the same formal parameters already approached in the design of the Malton Hotel at the Toronto Airport in the early 1960s. But Gund Hall is an integral whole in both its interior and exterior spatial unity, its compatible marriage of concrete and steel, and in its emerging style. To use the Renaissance aphorism, it may be said that nothing could be added or taken away from this building without impairing its value as an aesthetic entity. Gund Hall is altogether a "good" and beautiful building, standing beyond the contingency of preferences. The mere fact that it is continually discussed and compared is proof of its historical importance.

Alarming news from Harvard suggests that renovation or alteration of the building is planned, and that another architect, not Andrews, has been engaged for the work. Such a procedure appears highly questionable, since it is doubtful that any renovation can retain intact the aesthetic and historical significance of this unique building.

John Andrews returned to Australia at a time in which the emerging signs of a definitive Australian culture were becoming more and more apparent. It is a culture characterized by dichotomies and diversities which unfold suddenly, precise and complete, with nothing to mitigate their extremes; it constitutes a unique culture because the life experiences of Australians in their land are of universal value.

It is this universality of value which first identifies a culture, distinguishing it from mere provincialism. Among other projects included in the book from the Australian phase of Andrews' work, the Cameron Office Complex and the vicissitudes of its inception and construction are described and illustrated in some detail. This is a complex of great originality, and it restates a philosophy of human value in a place of work. The book concludes with the documentation of the more recent Intelsat Headquarters Building in Washington, DC, a work of considerable importance, especially from the standpoint of energy usage.

For most architects, however, it is the house built by John Andrews on his farm in Eugowra (pp. 96-100) which strikes home. Within the conceptual "practicality" natural to his work, this building becomes sheer poetry. The house occupies the center of a gently sloping, rugged, and earthy valley. It is constructed almost entirely of steel frame and corrugated galvanized iron sheeting. The form is symmetrical, extended, comprehensible. A transparent "energy tower" signals its presence from distant views, while at the same time being symbolic of the needs for sustenance of the occupants in this harsh climate. John Andrews facetiously labels this house with that characteristically meaningless description, "Post Modern." Under that label, architects seem to have become more important during recent years than architecture. Yet this house could very well be one of those works with no boundary of time-frank and essential, vernacular in origin, yet narrated in the spirit of Palladio. It constitutes an evidence of John Andrews' participation in architecture as visual image: a powerful expression of thought, in the face of which other modes of expression often appear merely auxiliary.

Mobil System Design: Heinz Wirth, 1971 hing Park, Wash. DC

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Energy Technics: Atriums will examine the performance of one of today's favored architectural devices. An authority on energy will discuss the factors that govern the thermal performance of covered atriums, as well as their potential contributions to lighting and their acoustical and safety characteristics.

August P/A will include a diverse sampling of outstanding new building design, plus a revealing article in the "Precursors" series, a second look at "How products get designed," and the third installment in the current series on Energy Design.



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Products and literature

Products



The H collection of 200 coordinated textiles in cotton and linen, designed by Trix and Robert Haussmann and Alfred Hablutzel, will be shown at NEOCON in Chicago. Mira-X International Furnishings, Inc.

Circle 100 on reader service card

A raised panel wood door, tested and classified by Underwriters Laboratories, is fire rated for 20 minutes. It can be specified in Western Pine, Red Oak, or a variety of other hardwoods. The door is available in sizes up to 3'-6" x 8'-0". Sun-Dor-Co.

Circle 101 on reader service card

The Crown Jewel textile collection includes coordinated wallcoverings, upholstery, and drapery fabrics. Wallcoverings have a Class A fire rating; upholstery and drapery fabrics have passed the NFPA 701 fire test for flame resistance. There are solids and stripes, with thick and thin yarn treatment for texture, S.R. Wood. Circle 102 on reader service card

NeoWool fabric coordinates with the NeoChrome collection by Uniroyal's Naugahyde being jointly offered at NEOCON. There are 30 colors ranging from soft peach to ocean gray and matching the entire NeoChrome collection. The fabric meets fire safety standards of the Boston Fire Department and the New York-New Jersey Port Authority. Shelby Williams Industries. Circle 103 on reader service card

Brussels cabinets of rift-cut oak in five wood tones are lacquered and have a hand-wiped finish. Drawer and cabinet pulls are also oak. The cabinets can be used in bedroom, bath, or other rooms. Special inserts adapt the units to specific needs. Riviera Kitchens, An Evans Products Co. Circle 104 on reader service card

Quarry Naturals[®] textured surface quarry tile is available in five new colors: Stone Gray, Stone Flash, Burnt Sequoia, Burnt Adobe, and Burnt Blend. The slip-resistant tile is tough enough for commercial use, for instance in malls, yet it can be used for residences. In-



Circle No. 335 on Reader Service Card

stalled over a concrete slab, the tile absorbs and conducts solar heat. American Olean Tile Co. Circle 105 on reader service card



Glazed and unglazed wall tiles, individually hand rolled and cut, are available plain or textured in sizes from 6" x 6" to 12" x 12". Colors are soft tones of green, white, antique white, and brown. Hans Sumpf Co., Inc. Circle 106 on reader service card

Contemporary solid brass lighting from Agusti of Barcelona, Spain, to be known as NESSEN/Agusti, will be shown at NEOCON. There are 25 wall, floor, table, and clamp lamps in the line, each with a selection of reflectors for a different look. Nessen Lamps Inc. Circle 107 on reader service card

Prestige velvet broadloom of 100 percent wool is offered in 32 colors. Manufactured in France, it is stocked in 15-ft widths, with 27-in. and 12-ft widths also [Products continued on page 133]

An elevator should do more than go up and down.

These days it's not enough to just get people where they want to go. Worker productivity, energy consumption, and tenant satisfaction are all affected by the elevator service in your buildings.

Yet a surprising number of architects still design without a second thought to elevator and escalator specs. Pity. They're overlooking options that can make a big difference in their building's utility for years to come.

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Schindler Haughton ELEVATOR CORPORATION Toledo, Ohio 43609



Products continued from page 131

available (18-ft widths in some colors). Weight and denseness can be increased for commercial space installations. The carpet meets U.S. fire code standards for commercial space applications. Stark Carpet Corp.

Circle 108 on reader service card

Solarlite energy-saving light fixture provides 100 lumens of light per watt and has a rated lamp life of 18,000 hours. The housing is cast aluminum, enclosed and gasketed for indoor or outdoor use. Suggested uses are night lighting, security lighting, walkways, and tunnels. Devine Lighting. *Circle 109 on reader service card*



The Offenburg arm chair, developed for the 1972 Olympics, was designed by Heinz Wirth. The stacking chair is constructed from tubular steel and wire, reinforced with welds at seat and arm joints, which is coated with a durable synthetic finish in white or green. The coating resists changes in temperature, sunlight, abrasion, and sea air. Kroin Architectural Complements. *Circle 110 on reader service card*

Tubmate[®] bath lift operates on household water pressure to raise or lower a handicapped person into and out of the bathtub. It has a 17" x 17" easy access seat with dual armrests and raise/lower control. The seat swivels to allow exit from the tub. There is an optional seatbelt for added safety. The white epoxy powder coating will not mar tub finish, says the manufacturer. American Stair-Glide Corp.

Circle 111 on reader service card

'Field-Safe' bath accessories use a snap-lock mounting system instead of set screws. Two stainless steel screws secure the accessory to the specified backing and are then concealed with a vandalproof covering flange. The accessories are available in four finishes: soft satin, highly polished, bronzetone stainless steel, and bright brass. There are towel bars, tissue dispensers, hooks, and racks among the accessories in the group. They are designed to meet the requirements of HUD, ASTM, ANSI, and other such agencies. Tubular Specialties Mfg., Inc. *Circle 112 on reader service card*

The Insul-Tite rolling door system combines galvanized steel slats, an ex-

truded polyvinyl chloride back cover, and rigid polystyrene foam insulation. Double brush seals provide a weathertight seal at both sides, and there are neoprene weather seals at top and bottom. A complete thermal break system within the jamb extends from sill to header. With no metal-to-metal contact, heat loss through conductance is reduced substantially. The door is suitable for both new and retrofit installation. Kinnear, Div. of Harsco Corp. *Circle 113 on reader service card*

The Premier acoustical ceiling of mineral-based panels was developed to absorb sound in open plan offices. The panels are fire rated and have a speech absorption coefficient of .98. The ceiling is available in 2' x 2' tiles and 2' x 4' and 20" x 60" lay-in panels. Conwed. *Circle 114 on reader service card*



A hexagonal porcelain washbasin, available in a choice of colors, black, and white, has fluting around the rim. Coordinated faucets and arched spout are polished chrome. Sherle Wagner, International. Circle 115 on reader service card

[Products continued on page 134]

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- 3. Dryvit Primus®/Adhesive. Dryvit's unique plaster material formed by mixing with Type 1 Portland Cement. Adheres Insulation Board to substrate and embeds Reinforcing Mesh to face of board.
- 4. Dryvit Surface Finish. A synthetic plaster material with inherent bond strength, integral color and a choice of applied textures. Provides a stain, fade, and weather-resistant exterior.



DRYVIT SYSTEM, INC. One Energy Way, P. O. Box 1014 West Warwick, RI 02893 (401) 822-4100

Circle No. 322 on Reader Service Card

Products continued from page 133

Crosswalk commercial vinyl flooring, with raised disks containing hard particles of mineral aggregate to provide extra durability, offers slip resistance even when wet. Suitable for heavy-duty areas such as lobbies, airports, ramps, corridors, and commercial kitchens, it is available in five colors. Armstrong World Industries, inc.

Circle 116 on reader service card

Old Colony passage door knobs, drawn of brass to 1/32 in. thick for a solid brass look, are styled smaller in scale like those of the 18th Century. The finish is hand polished for deeper luster. There are brass lever sets as well, and both knobs and levers are offered with roses of brass or satin black. Dexter Lock Div., Kysor Industrial Corp.

Circle 117 on reader service card



A contemporary lighting collection designed by Gary Payne and Stan Magnan includes floor, ceiling-hung, wallmounted, and table styles for residential use. One in the group is Carmelita, a table lamp with a concrete base. Sointu. *Circle 118 on reader service card*

Roofing with the look of cedar shakes is made from a lightweight, asbestos-free mineral material. It has a Class A fireproof rating and an insulation value of R-1.9. Color choices are Aged Cedar, a fully weathered look, and Natural, a partially weathered look. Cal-Shake Div., Shake Company of California. Circle 119 on reader service card

Snow- and ice-melting cables and mats melt snow without the problems of traditional methods: the damaging effect of salt, the mess of sand, the labor cost of shoveling, and the expense of equipment needed for plowing. The electric cables or mats are embedded in concrete or asphalt and usually will melt snow as fast as it falls. Mats can be shaped to fit around curves. Control is by a sensor, a timer, or manual on/off switch. Easy Heat-Wirekraft.

Circle 120 on reader service card

KEIM mineral-based paint contains a liquid silicate as binding agent to concrete surfaces. The long-lasting coating is not susceptible to water or ultraviolet light damage and has the ability to breathe, allowing moisture to diffuse to the outside. Manufactured by Keimfarben of West Germany, the paint is now available in this country. King Mineral Coating Systems.

Circle 121 on reader service card

Literature

Drafting supplies catalog features brand-name drafting and print supplies. The 60-page catalog includes pens and pencils; tracing, sketching, and diazo papers; lettering, prestype, and drafting instruments; furniture and equipment; and office stationery and supplies. Dataprint Corp.

Circle 200 on reader service card

Diazo copiers, in an automatic model that separates the print from the original and a manual model, are designed for the professional. Both have four fluorescent lamps that offer speeds up to 30 ft per minute. The Ammonia Arrestor system that controls ammonia odor is standard equipment. A rear stacking tray accommodates prints up to 30" x 42". Diazit Co., Inc. Circle 201 on reader service card

The ITT 511E duplex intercom system allows hands-free communication. All master stations can communicate with each other, and three extensions can in-

itiate dialing simultaneously. Besides the 10 digits, extra keys are provided for call/answering, release, camp-on-busy, transfer, and paging. Different functions have distinct tones. There are four exchange sizes to handle from 8 to 512 lines. Dukane Corp., Communications Systems Div.

Circle 202 on reader service card



Door Ways, a 28-page brochure, illustrates in color 63 wood doors. The eight series are Vintage, Knot Block, Carved, Geometric, Wedgewood, Applied Graphic, Stained Glass, and Armijo. Woods include Ponderosa pine, oak, walnut, mahogany, and redwood. Construction and materials specifications are included. Customwood. Circle 203 on reader service card

The S-AV 2050 Ektographic slide projector has multiple current/voltage settings that enable it to be used in all countries. It will accept a variety of lenses and has a quick internal lamp change that doesn't require the projector to be moved or the power to be turned off. Height adjustment can be locked in, and there is a zero-position LED light for [Literature continued on page 136]

40,000 buildings later in the U.S.A... proof-positive Dryvit[®] is more than a wall.

Dryvit Outsulation® is more than a wall, it's an energy-efficient system that puts massive insulation on the outside while providing a handsome surface finish. Proven in 40,000 buildings across the United States — and in many thousands more in Europe — Dryvit is the exciting versatile answer to a whole range of today's construction challenges.



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It took less than 7 weeks to close-in Control Data's building in Dallas, TX, with Dryvit Outsulation panels. And the work was done during the normally idle months of winter.

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For the owner, it meant a costeffective, energy-efficient building with a striking up-to-date appearance.

For the contractor: an on-schedule building with no downtime.



More than a wall for design flexibility.

This Arco Oil & Gas building in Plano, TX, gives you an idea of the dramatic inexpensive design opportunities Dryvit offers the architect.

3-Dimensional shapes, aesthetic detail, colorful graphics are easy to achieve with Dryvit's 4-component insulating/exterior finish system.



More than a wall for residential construction.

This Atlanta, GA, home illustrates how Outsulation can create any period, any design. Tudor halftimbering was achieved with wooden beams and Outsulation, built-up to be flush with them. Other Tudor designs have used Dryvit System shapes in a contrasting color finish as a substitute for actual beams.

With Outsulation, the owner gains not only design flexibility and energy savings but more interior floor space and lower structural costs because of the light-weight nature of the System.

More than a wall for energy savings.

With Outsulation adding massive insulation to the exterior of the wall of the Southwest Financial Plaza shown here, many energy-efficient benefits occur. Thermal bridges are

sealed. Thermal shock is minimized. Heating and cooling costs plummet — even original HVAC installations can be smaller, for further cost reductions.

More colors! 21 in all.

These architecturally pleasing colors are available in all 4 Dryvit Finishes. Each color is



integral with the Finish, whether Quarzputz[®], Sandblast, Freestyle, or Earthstone Matrix. All fade and stain resistant. Write for details.

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Dryvit is listed in the General Building File of Sweets Catalog under Section 7.13/DR.

Circle No. 322

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- Costs about \$150 for average house.

*Du Pont registered trademark. **Independent laboratory tests using 2x4 frame wall with 3½," R-11 insulation in 15 mph wind.



Literature continued from page 134

multiprojector use. Eastman Kodak Co. Circle 204 on reader service card

'Grouting Handbook' is a guide to epoxy- and cement-based precision grouting. It covers selection, properties, test methods, typical applications, specifications, and other relevant considerations. Technical information and data sheets are provided for various grouts available. The 192-page handbook has a 51/4" x 8" format and is \$6.95 plus 50¢ postage and handling. Order copies from the U.S. Grout Corp., 401 Stillson Rd., Fairfield, Ct 06430.

A sample copy of 'The PCI Journal' is offered to architectural professionals. It is the principal technical publication of the precast/prestressed concrete industry and is generally available on a subscription basis. For a free copy, write to Prestressed Concrete Industry, 201 N. Wells St., Chicago, Il 60606.

Exit alarms to deter unauthorized exit from buildings while allowing emergency use are described in an eight-page brochure. The solid-state units have a horn that emits a high-decibel sound for two minutes unless it is deactivated by a key. Standard alarms are surface mounted; there is also a model for concealed mounting. Sidro Security Products Corp.

Circle 205 on reader service card

Cabinets of oak or oak-grained laminate are shown in a 12-page color brochure. Special storage features illustrated in close-up include easily cleaned vinyl cabinet drawer interiors, self-closing hinges, nylon drawer glides, and storage accessories. Merillat Industries. Circle 206 on reader service card

The Grohn Collection of ceramic tiles, covered in a six-page brochure, includes imported decorative and glazed wall and floor tiles. Colors and designs are shown, and information is provided about sizes and wear characteristics. Mid-State Tile Co.

Circle 207 on reader service card

Single-fired glazed ceramic tiles have low moisture absorption, making them suitable for exterior as well as interior applications. Because of the high firing temperature, the glazed surface resists scratching. They are said to be impervious to almost all acids, alkalines, oils, and other caustic and corrosive substances. The tiles are described and illustrated in an eight-page brochure that also provides technical data. International American Ceramics, Inc. Circle 208 on reader service card

The RH-System[®] of electronic office equipment is adjustable to provide operator comfort. It allows keyboard and screen to be separated, and the screen to be tilted for more comfortable viewing. Both keyboard and video dis-[Literature continued on page 138]

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play can be adjusted 10 in. vertically by the touch of a button. An eight-page brochure illustrates and describes the system and its components. Data Furniture, Inc.

Circle 209 on reader service card

Drafting machines combine the features of a T-square, a protractor, and various squares and triangles. They are offered in several styles and sizes. Elbow type band-and-pulley machines are designed for use on small, flat or slightly angled boards. V-Track can be used on large, steeply inclined boards. A 12page brochure illustrates and describes the features of each. Vemco Corp. Circle 210 on reader service card

offer insulation against noise and temperature extremes are included in a 32-page brochure. Thermal photographs illustrate heat loss through glazing and improved performance after being fitted with replacement Trocal® windows. Drawings show details of construction and photos show various styles in typical applications. Dynamit Nobel of America, Inc.

Circle 211 on reader service card

Building materials

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

Masterson Branch YWCA and Metropolitan Administration Building,



grade beam on drilled bell-bottom piers. Steel frame. Steel studs fabricated by Buckner Steel. Lightweight concrete on metal deck: Permalite, Grefco. Stucco exterior on metal lath on gypsum board sheathing: USG. Ceramic tile: American Olean (2" x 2"), Gladding McBean (1' x 1'). Interior gypsum board walls: USG. Hollow metal window frames: Texsteel. Tinted glass: Solex, PPG. Aluminum entrance doors: Amarlite. Interior folding doors: Pella. Aluminum overhead doors: Overhead Doors. Concrete floor stain, interior: Scofield Stain. Tile floors: American Olean. Sports floor: Sport Tred, Campo Industries. Gypsum board and suspended acoustical ceiling: USG and Conwed. Built-up roofing: Celotex. Sealants: Thiokol, Pelora (latex). Batt insulation: OCF. Paint: Cook (latex on exterior stucco, interior latex and enamel), Du Pont (polyurethane on exterior metal). Hinges: McKinney. Exterior locksets: Adams Rite. Interior locksets and door closers: Sargent. Exit devices: Jackson. Lockers: Lyons. Signage, cast aluminum: Anoco. Chalkboards: Claridge. Exterior light-Anoco. ing: Marco and Devine (incandescent), Crouse-Hinds (metal halide), Moldcast (sodium). Interior lighting: Prudential and Wright Lite (fluorescent), Contemporary Ceilings and ITT Swivelier (in-Crouse-Hinds (metal candescent), halide). Exit lights: Marco. Dimmers: Decor and Hunt Electronics. Lavatories and water closets: Kohler. Flush valves: Sloan. Toilet stalls: Global Steel. Washaccessories: Bobrick. Water room fountains: Sunroc. Water heaters: Rheem and PVI. Drains and toilet chairs: Josam. Rooftop single-zone A/C Trane. Grilles: with gas heater: Krueger. Dampers: Ruskin. Exhaust fans: Acme. Cabinets: Gulf Coast Wood Products. Countertops: Formica. Racquetball equipment: Strongwall Systems. Acoustical boards: OCF. Fabrics: Gilford. Swimming pool equipment: Swimquip (filters, pumps, ladders), Teledyne Laars (heaters).

sociates, Houston. Concrete slab and

Banque Bruxelles Lambert, Lausanne, Switzerland (p. 76). Architect: Emilio Ambasz, New York. Carpet: Francetapis (Stark Carpet). Lighting: Flos (Atelier International, Ltd.), Sirrah (Castelli Furniture, Inc.), O-luce. Furniture: Simon (ICF, Inc.), Poltronova (Stendig, Inc.), Krueger. Accessories: Danese, Simon, Venini.

California State Capitol Restoration, Sacramento, Ca (p. 80). Architect: Welton Becket Associates, Santa Monica, Ca. Cast Pre-Knight Foundry. ironwork: cast plaster: Leyva's Ornamental Staff. Woodwork: Burnet Miller & Sons. Fireplace mantel restoration and carving: American Marble & Onyx. Manufactured ceramic tile: Heath Ceramics. Historic Wilton carpet reproduction: Bloomsburg Carpet. Museum historical carpets: Scalamandré Carpets. Restoration furniture: Bristol Antiques. Historical lighting fixtures: ELA Custom Division.

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Job Mart continued from page 142

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Mansion on Turtle Creek features 145 majestic and spacious rooms.

n the bar of Washington's Fairfax Hotel, nestled among the embassies along Massachusetts Ave., 3

o'clock signals tea time. English afternoon tea is a daily tradition at this small, intimate hotel, a quiet oasis of rest for the harried executive, far from the madding crowd.

Patterned after the grand European hotels, the Fairfax offers amenities that are described by Manager Paul E. Seligson as "ever present but not obsequious" . . . or "always available, right around the corner." The night butler, for instance, not only brings food to your room but will, should you so desire, wash and iron your clothes and have them ready by morning. "And," Mr. Seligson stresses, "we can get the executives' messages straight. That's very important."

Such personalized service, long a hallmark of the best European hostelries, is becoming increasingly common in America as small hotels are built, or refurbished, to cater primarily to corporate executives. These jewels usually offer no more than 200 to 250 rooms, with many having considerably fewer.

Renovated by businessman John Coleman three years ago at a cost of some \$7 million, the Fairfax has 165 rooms. Each is unique, with its own "personality." Room rates are steep, to be sure, but not that much more than those at the large hotels and chains, which cannot match the personalized attention. At the Fairfax, rooms run from \$100 to \$145 a night for singles, \$120 to \$165 for doubles, and \$300 to \$625 for suites—typical for hotels of this style.

The following is an executive's guide to some of the other best small hotels in major U. S. cities. Two experts—Edward B. Watkins, editor of *Lodging Hospitality* magazine, and Andrew Harper, editor and publisher of *The Hideaway Report* (Fairfax Station, Va.)—advise that the top establishments at this level offer truly extraordinary service. Mr. Watkins looks for "excellent room amenities, outstanding food, and personalized attention." Mr. Harper gives "two tipoffs on the great hotels: They have a concierge instead of a bell captain and they have 24-hour room service."

WASHINGTON: In the historic Georgetown area, the Four Seasons Hotel accords "special treatment" for a woman traveling alone. If possible, the 208-room hotel will "bump" her up to a better room (usually located closer to the elevators), at the original rate.

Opened in 1980, the **Dolley Madi**son is a 44-room downtown gem, half a block away from its parent, the 362-room **Madison Hotel**, long a corporate favorite. The Dolley Madison is well-described as an "elegant little town mansion" offering most of the amenities of the Madison, besides being even more intimate.

The Madison numbers among its corporate regulars Herbert E. Markley, former president, and now chairman of the executive commit-

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tee, of The Timken Co., Canton, Ohio. "It's the place where executives stay," he says. "And it's not a place where there's a convention crowd to buck all the time."

CHICAGO: Long-celebrated for its huge, convention-style "cities in the sky," Chicago now also claims more outstanding, intimate, European-style hotels than any other U. S. city. Four of the finest lie on the near North Side within minutes of the business district

The newest and most luxurious is the 252-room Park Hyatt, the old Water Tower Inn before its \$10 million rejuvenation in 1980. The suites here are graced not only with fresh flowers or plants, but also a wet bar and no fewer than three TVs-in the living room, bedroom, and even the bath. Just off the lobby is The Salon, a peaceful room where guests can enjoy snacks and drinks and classical music

by a pianist, harpist, or harpsichordist. Besides La Tour, an excellent French restaurant, the hotel offers a well-stocked wine cellar and free limousine service.

What was once the Lake Shore Drive Hotel has been transformed into what Lodging Hospitality calls the "epitome of elegance": the lavish, 220-room Mayfair Regent. Guests are provided such amenities as terry cloth bathrobes, umbrellas, and Yves St. Laurent soap.

Located back-to-back off Michigan Ave., the 139-room Tremont Hotel and the 222-room Whitehall are both owned by Mr. Coleman, who restored the Fairfax in Washington. At each the service is impeccable, with the staff knowing all the guests by name. Those who stay at the Tremont can look forward to Godiva mints on their pillow and a nightcap of Courvoisier cognac by their bedside. Cricket's restaurant in the Tremont is patterned

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after New York's "21" Club and is a favorite of many corporate chiefs.

NEW YORK: "Cleanliness, cleanliness, cleanliness, cleanliness" is what General Manager George Markham stresses at the 175-room Hotel Carlyle, one of eight U. S. hotels to receive the Mobil 5-star award this year. He believes that cleanliness, comfort, and personalized service are the reasons why the 51-year-old Carlyle ranked No. 1 in the nation (and No. 8 in the world) in a poll of international bankers by *Institutional Investor* magazine last year.

Two other Manhattan jewels of the same vintage are the 149-room **Mayfair Regent** and the 235-room **Pierre.** The Mayfair Regent houses the privately owned Le Cirque, one of the nation's great restaurants, a favorite of President and Mrs. Reagan.

The Pierre radiates what one educated traveler calls "aristocratic charm ... the rooms have very high ceilings and very thick walls." All the small touches are offered, including twice-a-day mail service, 24-hour room service, and overnight shoeshines.

DALLAS: Restored by Carolyn Schoellkopf Hunt (yes, *those* Hunts), the Mansion on Turtle Creek features 145 rooms that, as might be expected in Texas, manage to be both majestic and spacious. The restaurant is a restored mansion that once belonged to cotton magnate Sheppard King; it's managed by the "21" Club of New York. Located in one of Dallas' finest residential neighborhoods, a 15minute drive from downtown, the hotel maintains an excellent 2-to-1 ratio of employees to guests.

NEW ORLEANS: Hotel Madison de Ville is described as "the finest small hotel in any American city" by *The Hideaway Report's* Mr. Harper, who seeks out these "hideaways" for his corporate readers. This little-known, renovated, French Quarter gem, where Tennessee Williams wrote "A Streetcar Named Desire," contains just 14 rooms in its main building. All look onto a hidden courtyard. The piece de resistance lies a block and a half away: seven elegantly furnished Audubon Cottages with pool and patio. "Open the gate," says Mr. Harper, "and suddenly you're in another world, going back 100 to 150 years." Better known is the 80-room **Pontchartrain Hotel.** It's worth staying at simply to dine in the famed Caribbean Room, which features exquisite French and Creole cuisine.

LOS ANGELES: Alexis Eliopulos is the only female general manager of a Mobil 5-star hotel in the U. S.; she has been with the plush 117-suite L'Ermitage (all the rooms are suites) since it opened in 1976. The suites run from \$155 to \$850 and all have a kitchenette or kitchen, a fireplace, and a wet bar. There are no room keys; the door locks are electronic, each guest setting his or her own combination.

With its 40 rooms and 28 suites, the Hotel Bel-Air rambles across 10 acres of what may be the most expensive residential real estate in America. Since the present owners took over 40 years ago, the hotel has been renovated in stages and has "grown like Topsy, with no rhyme or reason," says General Manager Jim Checkman. "That's what gives the hotel its character. All the buildings are unique."

Long an executive favorite is the Westwood Marquis, a 250-suite hotel which once was a dormitory for UCLA students. The elaborate floral arrangements stand out. Each suite has live flowers and plants; the penthouse floor alone has more than \$20,000 worth of greenery.

AND ALSO: San Diego's 223-room **Westgate** has, says one travel agent, "a French restaurant as fine as any in the country and room appointments many museums would like to have." In San Francisco the place to stay is the 143-room **Huntington Hotel** on Nob Hill, a storied old hotel at which neither the staff nor the service seems to change much. Both are first-class.

The **Ritz-Carlton Hotel** (282 rooms, but still "intimate") long has been the place to stay in Boston. One reason is the location, overlooking the Public Gardens and the Charles River downtown. Another is the room service. Most suites have woodburning fireplaces; on a winter night, call the houseman and he'll bring up another log to toss on the fire.

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