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### ARCHITECTURAL DESIGN

Editors in charge: Daralice D. Boles, Thomas Fisher

#### 61 Barcelona

Mies van der Rohe's German Pavilion, built for the 1929 World's Exposition in Barcelona and demolished shortly afterward, has been faithfully reconstructed in its original location under the guidance of Christian Cirici, Fernando Ramos, and Ignasi de Sola-Morales. Warren A. James

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Barcelona Pavilion (p. 61) reconstructed on its original site. Photo: Lluis Casals.

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### Paradoxes of Restoration

The renewed brilliance of buildings we are now restoring—even recreating—prompts unsettling comparisons with present-day accomplishments.

ON the cover of this issue, we are showing what is probably the most beautiful building completed anywhere in the world this year. The Barcelona Pavilion is not newly created, however, but re-created. Our very successes at restoring the magnificence of this building and others, such as the New York Public Library—a landmark of totally different design character, also in this issue—are causes for celebration, yet they raise some paradoxical questions.

The Barcelona example has many layers of implications to consider. It should be especially gratifying when a building has been rebuilt solely for its architectural values, rather than other associations. Yet this is an icon of the Modern movement, which believed in discarding all architecture of the past—and would have scorned the commemorative rebuilding of a structure from half a century past.

For architects who reject Modernist principles and embrace the past for inspiration, the reconstructed pavilion seems to be something of a reproach: Mies was able to carry off this achievement without using the precedents—the Classical references, the typologies, the craft traditions, etc.—that they recommend as means toward architectural distinction. For today's Modernists, it is equally a reproach: Among the countless buildings completed in the 1980s according to principles of abstract form and technologically derived detail, precious few could survive comparison with this little structure.

If we consider the New York Public Library, by Carrère & Hastings, other paradoxes arise. For one thing, this visually lavish Beaux-Arts structure *functions* extremely well, accommodating highly demanding uses, with only minimal practical adjustments, 75 years after its completion. And, though it differs almost totally from Mies's pavilion, its architectural superiority has also been a major factor in attracting the funds required for its restoration.

One obvious lesson here: A building's adherence to one design philosophy or another has little to do with its quality—this despite the fact that the creators of both of these buildings were strong combatants in the styles battles of their times. One hypothesis that seems to follow: Dedication to any one set of architectural principles is more likely to produce fine accomplishment than a receptivity to diverse influences.

If this is so, we have another problem to resolve: when the architect—as a critical observer—*knows* that there are many routes toward great architecture, how can he or she—as a creator—pursue one definite approach, blocking out incompatible, doubt-inducing distractions? Actually, there is plenty of evidence that the best architects do this: Corbu could love ancient Greek architecture without emulating it, Wright could praise Sullivan, Mies could venerate Schinkel. (The latter example, though, could be cited as an undermining influence—Schinkel's greatness notwithstanding—by those who see Mies's late work as disappointing.) But today's tendency to adapt the form and style of each project to its context—enlightened as it may be, and beneficial on a civic scale—can compromise the singularity required of masterpieces such as these two buildings.

And what are we to deduce from the great amount of effort now going into restoration—the legislation and funding that supports it and the sentiments behind them? Most of us applaud this, but doesn't it reveal a lack of consensus about today's values and at least some influence of nostalgia for earlier times? And isn't it ironic that restoration is carried out with exceptional dedication in China and the Soviet bloc, where revolutions have discredited the institutions that sponsored their greatest landmarks.

Yes, the world we live in is full of ironies and cultural cross-currents, and surely full of doubts. We should all be striving toward creating new masterpieces, and recognizing them when they appear. But we should all be thankful that buildings such as the Barcelona Pavilion and the New York Public Library can now be savored in their original glory.

John Maris Dife

Reminder: P/A Awards

Deadline for P/A Awards entries is September 8. For entry forms see June P/A, page 14, July P/A, page 18, or call 203-348-7531 and ask for Awards Editor.

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# Views

### House Owner's Response

I've recently returned from making a picture abroad to find Esther McCoy's article in *Progressive Architecture* (Feb. 1986, p. 25) wherein she expresses her displeasure with the houses of three film directors who live on La Mesa Drive in Santa Monica, California. Since she unleashes most of her wrath on the remodelling my wife and I did on our house, I feel compelled to point out a few of the inaccuracies in her article. Almost every statement of fact she makes is wrong.

She can't even get her colors right. She refers to our living room as "a great meadow of yellow carpeting and yellow sofas." Actually the floor is gray slate and the sofas are white. It's understandable that she made this error, however, since she's never been in the house and I understand how hard it is to write accurately about something you've never seen. Her problem with colors grows more acute when she calls the wall in front of Mel Brooks' house orange. As any of the joggers or cyclists who use our street could tell her, Mel's wall is totally white. There isn't a speck of orange on it. Evidently she's not only never seen the houses she's writing about, she's never even been on the street.

Similar factual errors permeate her article and undercut most of her arguments, including the one to which she devotes the most space—the manner in which our architect, Craig Hodgetts, whom she correctly identifies as a "several time P/A award winner" (one of the few correct statements she makes). has changed the quality of "full north light of the living room" from the original design by J.R. Davidson. She has as much difficulty with direction as she has with color. The living room windows do not face north; they face almost directly west. A major problem with the original design was that for approximately six months of the year it was impossible to use the living room in the afternoon because of the heat and glare generated

by the floor to ceiling windows facing into the sun. Evidently Davidson, born and educated in Germany, did not understand the intensity of the Southern California sun. Hodgetts has corrected this error beautifully.

Beauty . . . combined with livability . . . can be used as an overall description of the results of Hodgetts' work. Because of the dated quality of the original design and the slightly deteriorated condition of the house, we were able to purchase it for about half the prevailing price for similar houses in the area. With the remodelling not quite complete, we turned down an unsolicited offer for almost a million dollars more than we paid for the house. I'm aware that the market value of a building is not necessarily a true indicator of that building's worth, but this type of appreciation in less than a year, combined with the praise given the work by other architects and invitations to have the house featured in many of the major architectural and design magazines in the country, renews our delight with what Hodgetts has done to refine and update a good but slightly flawed design by Davidson fifty years ago.

It's a pity Ms. McCoy did not trouble to call us before writing her article. If she had actually seen the house she was writing about, I'm sure she would have joined all the others who have praised the work so highly. *Roger Corman* 

### New Horizons Studio Los Angeles

[Esther McCoy reports that she has been in the remodeled house, after the Cormans moved in, and that yellow carpeting and furniture were there at that time. The living room glass wall, she has determined, faces twelve degrees west of north.—Editors]

### **States of Preservation**

The News Report section of the April 1986 issue of *Progressive Architecture* (p. 26) includes Daralice Boles' review of the upcoming events Architectural Heritage Year, sponsored by the Preservation League of New York State. Ms. Boles describes the Preservation League as "the only statewide organization in the country dedicated to preservation."

While the League is indeed the only statewide organization in New York dedicated to preservation, it is certainly not the only one in the country. At present more than 40 states have such an organization, with some states boasting more than one.

The Preservation League of New York State's Architectural Heritage Year is an ambitious and exemplary project which richly deserves the coverage given in your magazine. Hopefully you will also find worthy of note the outstanding work of the numerous other statewide preservation organizations. Sally G. Oldham Vice President Programs & Services National Trust for Historic Preservation Washington, D.C. [The writer enclosed a list of comparable organizations in other states.—Editors]

### **Alexander Reexamined**

Christopher Alexander has more in common with the Modernists and the Post-modernists than he would like to admit. Mr. Alexander continues to believe one of Modernism's most fundamental tenets, that architecture and technology can radically transform society. The patterns in A Pattern Language propose drastic changes in politics, law and economics, in addition to changes in the built environment. For example, Pattern 7: The Countryside asks us to "define all farms as parks, where the public has a right to be; and make all regional parks into working farms." While his vision of utopia may differ from that of the Modernists, his faith in architecture's power to achieve it is the same. Isn't this positivism?

Like most Post-modernists, Mr. Alexander's buildings do not live up to the promise of his writings. At best, his built work is quaint and charming. For better or for worse, architectural theories are judged by the buildings of their followers. Pattern languages will not be widely used until they produce great architecture.

Mr. Alexander's writings also relate to the current interest in types and typologies. Mr. Fisher, in his article, tries to distinguish between the patterns of a pattern language and types. I disagree. The patterns are types. What distinguishes Mr. Alexander's work is his desire and ability to communicate the complex theory of types to a large audience. A Pattern Language can be understood by architects, students and lay people. What other current architectural theorists can make that claim about their work? Whatever one may think of his ideas and writing style, Mr. Alexander sets new standards for clear communication in architecture. This, perhaps, is his greatest contribution. Stephen Wallet, AIA Naegle Associates San Diego, Calif.

I think it's disgraceful that this arrogant naif continues to receive such adulation. It's clear evidence that in architecture, at least, publication *per se* is tantamount to credibility. *Robert Paul Dean Heery Architects & Engineers Atlanta, Ga.* 

### **Credit extension**

The site plan for Jefferson Park, Cambridge, Mass. (P/A, May 1986, p. 96) is by The SWA Group, Boston.

#### Photo credit correction

Coverage of Commonwealth Development in Boston (P/A, May 1986, p. 95) incorrectly attributed all photographs to the architects. Nick Wheeler was the photographer for the two images of the renovated housing development (3b, 3d), architects Tise Wilhelm for the "before" shots (3a, 3c).



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# P/A Reader Poll Your Experience with Liability

The second in P/A's series of Reader Polls takes up the timely problems of liability and insurance to cover it. Your responses will help us determine how the current "crisis" is affecting the profession generally.

In this, our second P/A Reader Poll, we ask you for your thoughts on liability. We've made the assumption, in preparing this poll, that rising liability insurance premiums and increasing litigation have affected the design professions and that every professional is at least aware of the situation. What we're looking for in this poll is information on how that situation has affected your work and what you think about it.

This is a poll of your own ideas. The national press has given ample coverage to the liability issue and the effect it has had on all of the professions. P/A has published seven articles on the subject in the last year alone (Oct. 1985, p. 62; Nov. 1985, p. 65; Jan. 1986, p. 61; Feb. 1986, p. 53; March 1986, p. 55; April 1986, p. 63; July 1986, p. 63). While such coverage may have affected your thinking on the matter, try to limit your views to those drawn from your own experience.

Some of you who are not primarily in management of your firms may feel unable to answer some of the questions here, in which case you have three alternatives: You may answer whichever questions you can and return the form; you may take a more active interest by putting some of the questions to senior members of your firm; or you may pass the form along to someone who does know the answers, with the suggestion to fill it out and return it to us. The response to our last poll, in the June issue, on compensation has exceeded our expectations. Such a response shows that you, our readers, have strong opinions about the state of the profession and want those opinions heard. Let that response not lead you to complacency, however. These polls have value as a source of information only if they represent a true cross section of the profession. If you filled out the last poll, do so again this month. If you did not, please take the few minutes required for its completion.

On this page in the October issue, we will publish an analysis of your response to the June poll on compensation opposite our next poll—on career satisfaction. That same pattern—the results of one poll appearing opposite the questions for another—will prevail in coming months.

You may wonder why we're polling our readers in this fashion. It is not solely for your information; our success as a magazine serving the design professions depends upon our understanding your needs, interests, and concerns. These polls are our way of doing just that. But we've conducted these polls with you very much in mind. The design professions are undergoing some rather dramatic changes; through these polls, we hope to gauge the source and dimension of those changes. Watch for the results beginning in October. You may see in them something of yourself. *Thomas Fisher* 

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# P/A News Report

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Otto Wagner, Dispatch Bureau in Vienna 1900.

### Vienna: Intelligent, Inelegant Show

Vienna 1900: Art, Architecture & Design, the exhibition which opened on July 3 at New York's Museum of Modern Art, is at once more extensive than any show on the subject seen before in the United States, and yet more limited than the richly interdisciplinary images associated with the era. The 700 or so works of art shown in this exhibit were culled for the most part from last summer's exhibition in Vienna, Dream and Reality (P/A, Oct. '85, p. 30), which did in fact portray the remarkable social, cultural, psychological, and political forces and accomplishments of turn-of-thecentury Vienna-an undertaking more comprehensive than (continued on page 27)

### Beauty Contest Goes to the Dogs

The first so-called "beauty contest" to award building permits in San Francisco took place in May. The review process determines the distribution of 1.5 million square feet allocated to new construction each year under San Francisco's recently adopted Downtown Plan. Three projects-299 Second Street and the Van Ness Gateway, both designed by Jeffrey Heller of Heller & Leake, and 235 Pine Street, by Skidmore Owings & Merrill-were reviewed. All three were turned down by the Planning Commission upon the recommendation of a threemember architectural review panel, which met last February and includes Richard C. Bender, Dean of U.C. Berkeley's College of Environmental Design, Gerald McCue, Dean of Harvard's Graduate School of Design, and Thomas Vreeland of the School of Architecture and Planning at U.C.L.A.

For the developers who claim to have spent about \$250,000 each on elaborate models, (continued on page 25)



Datas C. Danadamate

Detail of Crescent's colonnade.

### Johnson in Dallas: Faux Chateau

Traditional forms in American architecture have been making such a comeback that they are even reappearing where they never existed. One recent manifestation of this spurious revivalism is The Crescent—1.6 million square feet of office, (continued on page 25)



Winning entry by Patrice Louise Lynch and Brian James Wait.

### **City Visions: Philadelphia's Future**

"Ideas for Philadelphia's neighborhoods, downtown or region; ideas which can be translated into designs for buildings, parks and urban spaces in Philadelphia, and which may be applicable to other cities" so read the broad invitation for submissions to the CertainTeed Award for City Visions. Organized by the nonprofit Foundation for Architecture, the competition was generously funded by the building products manufacturer with \$50,000 split among five winners.

The seven-member jury chose "a balance of things that go from Utopian, almost unachievable . . . to practicality," says jury chairman (*continued on page 24*)

### **Pencil Points**

Emilio Ambasz, New York, with Cooper-Lecky, Washington, D.C.; Clark and Menefee, Charleston, S.C., with Eskew, Vogt, Salvato & Filson, New Orleans; Esherick, Homsey, Dodge & Davis, San Francisco; Michael Graves, Princeton, N.J.; and Antoine Predock, Albuquerque, N.M., will participate in a charrette competition for the South Carolina Marine Science Museum in Charleston.

Antoine Predock, Gunnar Birkerts, Edward Larrabee Barnes, and Cambridge Seven have been invited to compete for the commission to design an American Heritage Center and art gallery for the University of Wyoming at Laramie. The Center specializes in Western art, its archives housing the papers of Western movie stars. Jurors Jaquelin Robertson, Barton Myers, and others will convene September 8 to judge the schemes.

Ram Karmi and Ada Karmi-Melamede, a brother and sister architectural team from Tel Aviv, have been selected to design the Supreme Court Building in Jerusalem. The pair were chosen from a field of 10 contestants including four finalists in an open Israeli competition, and six invited architects: three Israelis, among them Moshe Safdie, and three foreigners-**Americans Richard Meier and** James Ingo Freed of I.M. Pei & **Partners and Ricardo Legorreta** of Mexico. American architects Bill Lacy, Cesar Pelli, and Charles Moore were jurors.

The Hillier Group with Alan Chimacoff, Hammond Beeby & Babka, and Hoover Berg Desmond have been selected by the Arizona State University following a request for qualifications to design an addition to the school of Architecture. The architects are to submit their schemes for the new building, twice the size of the present school, on Oct. 2.

Pershing Square Competition has entered its second phase with five finalists: Kevin Bone/ Joseph Levine, New York; Barton Phelps/Hak Sik Son, Santa Monica; SITE, New York; The SWA Group, Sausalito, Calif.; and Frank Welch & Associates, Dallas. A public presentation of the five schemes is scheduled for August 23 in Los Angeles, when the jury chaired by Charles Moore begins its deliberations.



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architects Paul Florian and

promises to be both delightful

and informative. "Architecture

donors. Plans by young Chicago

Stephen Wierzbowski have been

funded by the National Endow-

ment for the Humanities and

the Graham Foundation, with

individual exhibits depending

on support by Steelcase, NEC,

Hewlett-Packard, donor Janet

tute, and, it is hoped, major

construction industries.

Falk, the Illinois Masonry Insti-

groups in the steel, precast con-

crete, glass, limestone, and other

public, especially children, and

has numerous strategies to in-

terest its varied audience. For

the young, there is a large house

The exhibit is aimed at the lav

Ian Michael Cope's Canal for Philadelphia, winner in City Visions.

**City Visions** (continued from page 23) Laurie Olin. Ian Michael Cope's delightful canal proposal would flood the underused Reading Railroad corridor on the northern edge of Center City, connecting the Delaware and Schuylkill Rivers. Stephen Matthew Heinz's "Connections/Intersections" proposes the more practical enhancement of city transit stops through the introduction of commercial centers at each major intersection.

These two planning proposals are balanced by a pair of winners that attend to the image of the city, not its physical fabric. Louis Schiller's "Ribbon of Gold" is a simple but eye-catching proposal to plant hardy, wild black-eyed Susans in public squares, along train rights of way, in window boxes, and median strips as a means of unifying and identifying the city visually. The jurors considered "Four New Squares and a Garden for Every House" by Patrice Louise Lynch and Brian James Wait as compelling a graphic image as it is an urban idea, and proposed it be emblazoned on T-shirts and beach towels as the new symbol of Philadelphia.

Finally, the fifth and most architectonic proposal by Patricia C. Kucker and Wesley Wei sets a floating island resort in the Delaware River.

City Visions comes at a crucial time for Philadelphia, as the city moves into the post-Edmund Bacon era, guided by architect Robert Geddes.



Architectonic cabinets (above) house computer games; an axonometric (right) shows full Chicago exhibit plan.

model to examine and cabinets to scamper under. For the somewhat older, there are computer games to play: planning an office, an apartment, a *house*, for example, and playing the developer game. For the more sophisticated, there are beautiful panels of photographs of significant Chicago buildings, as well as a stylized grid of Chicago upon which the exhibition layout is based. Striking architectural cabinets contain the computers.

The 5300-square-foot exhibition is engagingly arranged, offering from the "farmland" entrance (a setting provided by the museum) enticing glimpses of the "skyscrapers" in the distance. The visitor passes a masonry wall "in the process" of being built, wanders among (and under) cabinets that represent the unfinished assembly of specific materials, and is drawn along a narrowing colonnade that focuses on a fragment of Jenney's Home Insurance Building.

The architects purposely aimed at revealing the process of architecture and building, avoiding aesthetic philosophical exposées-except in the subtlety of the exhibition design itself. The show's few weaknesses-the somewhat simplistic nature of the computer programs and of some of the written explanations of the exhibits-can be remedied in the future. Overall, the exhibition will provide a lively and engaging representation of the act of architecture allowing hands-on involvement, as well as inspiration. Susan Doubilet





299 Second Street (top left), 235 Pine (top right), Van Ness Gateway (above).

**San Francisco** (continued from page 23) sketches, and additional fees in order to parade their projects by the review panel, the results were particularly infuriating. Planning Commission members were also grieved by the wasted time and money. Dean Macris, Director of Planning, has since announced a review of the review process.

The problem seems principally one of scheduling. The three architect jurors reviewed these projects well after their designs were set, when they could only accept or reject the proposals. If the review panel, which is not mandated by the code, is to be retained as part of the process—and it should be—it should have its say earlier in order to have a more constructive impact.

Though the timing of the panel's review was unfortunate, its criticisms were right on target. Jurors were "troubled by a sense that the architects were being too compliant, too quick to jump to whatever they think will get approved." While praising 299 Second Street as the best in the group, they criticized the scheme's "pretentiousness" and "formal mannerisms," saying, "the architect is borrowing new (i.e., Post-Modern) vocabularies he isn't used to," which are "more difficult to copy than Modernist types, and are just as susceptible to bad copying.'

The architects, however, do not deserve all the blame. The

Downtown Plan's aesthetic guidelines are so prescriptive that they do appear to provide a recipe for success. If these proposals look formulaic, the Plan is partly at fault.

A report recently issued by the San Francisco Planning and Urban Research Association (SPUR), an influential citizen's group, says the Downtown Plan and the annual growth cap are contradictory. Asks Michael McGill, SPUR's Executive Director and author of the report, "What is the significance of design review? Does a developer seek to comply with the design guidelines of the Downtown Plan or does he try to satisfy a design review board which may not agree with those guidelines? Is the goal to have buildings which are more compatible with San Francisco's urban design context, or buildings which would win an international competition as an artistic statement? Who chooses? Who wins? Why?"

With three projects down, some 14 major developments totaling over 3.5 million square feet are still waiting in line. Some should be excised even before the panel's review. No procedure for this surgery exists now. Moreover, the next review, tentatively scheduled for the fall, may be canceled while procedural questions are resolved. Meanwhile, San Francisco's vacancy rate is 17 percent and rising. Who needs new buildings anyway? Sally Woodbridge **Crescent** (continued from page 23) hotel, and retail space in Dallas, designed by John Burgee Architects with Philip Johnson and the local firm of Shepherd + Partners/USA. The developers are Rosewood Properties.

Typologically, The Crescent combines a downtown office building completed last October with a suburban mall finished in April. Its location is on the "other side of the tracks," separated from the CBD by a freeway, but near the new Dallas Arts District (see P/A, June 1983, p. 35). While this situation may reflect "Dallas"-style rivalries, particularly between the Hunt Brothers and Trammel Crow, who has been active in development of the North side, it also suggests a potential extension of the downtown. In fact, The Crescent's office building is a series of three interconnected slabs, treated like a curving wall to define the development as well as present a physical edge to downtown.

The 10-acre tract is an odd, triangular site bordered on its north by well-established residential neighborhoods. The Crescent's papa-bear, mamabear, baby-bear massing yields a short prow closest to nearby twoto four-story buildings.

Philip Johnson describes the stylistic treatment of The Crescent as "adopted from early Texas architecture, with a strong French influence," evident in the chateaulike composition. The concept derives from Johnson's "conscious idea that Texas in the late 19th Century was very glamorous." There is, however, little evidence to suggest that the French actually were historically present in Central or North Texas, and still less to suggest that 19th-Century Dallas was glamorous. The Crescent, in fact, would seem to recall only itself.

Recent developments adjacent to The Crescent have also taken on mansard roofs and French details. Any distinction between "serious" Post-Modern design and opportunistic revivalism fails to materialize when both are seen together. And at the level of detail, the impure mix of period and standard commercial elements in The Crescent betrays not an ideological commitment, but an ultimately cynical expediency.

Peter C. Papademetriou



Crescent's papa, mama, and baby bear massing.

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### P/A NEWS REPORT

**Vienna** (continued from page 23) that assumed by most art museums.

Kirk Varnedoe, adjunct curator of MOMA's Department of Painting and Sculpture and organizer of the exhibition, has, in limiting the show's scope, taken on a task that is serious, courageous, and somewhat thankless: He has intentionally isolated the visual arts from all other-more outstanding, as he admits-forms of cultural and intellectual pursuits of the period, in order to prove how and why the visual arts were a relatively weak force in modern culture. He does this, as he explains in his admirable catalog, to set the art history record straight as to the true significance of the visual arts of that specific era.

The success of his endeavor, perversely, dooms him in a way: In so admirably proving the weakness of his subject, he creates an exhibition that is disappointing as a visual experience. As often befalls scientific experiments, isolating a limited number of individual works in order to make a point alters them, and in this case ignores the period's important ideal of Gesamtkunstwerk, the collaborative ensemble of art, architecture, design, and other (sometimes performing) arts. The feeble attempt to create representative backgrounds does not rectify the situation. Their threedimensional components look paltry after the fine, full-scale reproduction of Otto Wagner's Die Zeit facade that serves as the exhibition's entry piece. And, many of the installations-a few pieces of stemware and several pieces of graphic art, for example, in one cabinet-do not take the senses into account.

While the senses are unfulfilled by the overall installation, they are certainly fed by many individual works-the golden paintings of Gustav Klimt, the Wiener Werkstätte silver pieces, the Koloman Moser inlaid wood furniture. The section on architecture, to which the viewer is directed after seeing the main part of the show (though the subject is presented first in the catalog), is nicely mounted and includes beautiful photography, drawings, and models of works by Otto Wagner, Adolph Loos, Josef Hoffmann, and Joseph Maria Olbrich. Sadly missed are the

large and even full-scale recon-

structions of building parts

(other than the Zeit façade) that were shown in the Vienna exhibition.

The established aims were admirably achieved. The viewer clearly follows the transition from the Jugendstil to the rigid geometries of the early Wiener Werkstätte, and from there to the folk influences and expressionism seen at the 1908 Kunstschau exhibition. The contrast between the sublime nature of Klimt's controlled eroticism, as revealed in his paintings, and Egon Schiele's agonized pathology is made palpable. The ultimate dissolution of the Austrian Empire is unmistakably prefigured in the visual arts, in the whirling descent from a rich, if nervous, surface beauty to naked, painful anxiety and ugliness.

An accompanying video provides an attractive outline of the period's social context, as does a "newspaper" which can be perused while enjoying strudel in a Viennese-inspired garden pavilion. But to receive the full message that is the point of the entire exercise, Varnedoe's most perceptive catalog should not be missed. *Susan Doubilet* 

### Johnson in Houston: Ledoux Redo

The recent hoopla at the May opening of a new College of Architecture at the University of Houston was accompanied by profound disappointment. While resolving a real need to consolidate scattered, inadequate quarters, the design by associated architects John Burgee Architects with Philip Johnson of New York and Houston-based Morris\*Aubry Architects falls short on a number of levels.

The College of Architecture site is surrounded by a series of unrelated contemporary buildings, service structures, and perimeter commuter parking lots. Johnson's solution: ignore context, or at least overwhelm it. A bulky building, his school asserts its presence by sheer mass, a totally divergent formal character, and placement directly astride a major campus entry/service street. This siting establishes the design as a new gateway to the campus.

The new building is in fact an old building. Johnson audaciously offers a nearly direct quotation from Claude-Nicholas (continued on page 28)

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School of Architecture, University of Houston.



School of Architecture's atrium

Ledoux (continued from page 27) Ledoux's design for a "House of Education," for the ideal town of Chaux (1773–1779). The use of precedent is fastidious, with scant revision—an approach implying that the integrity of the preconceived form transcends the details and vagaries of internal program needs. An analysis of the plans reveals nothing, except to confirm that any correspondence between internal organization and façade representation is largely incidental.

The dominant interior event is a four-level, five-story glazed atrium. Interior stairs that are the main means of circulating between levels pull users out into the atrium itself. Yet the atrium fails as a social space: The screen of columns and circulation paths along the edges effectively isolate the surrounding studios from direct physical engagement with the space. Although the atrium implicitly functions as a campus "pass-through" from parking, the puny Neo-Palladian entries and deep porches create an overall effect that is uninviting except for the most initiated.

Certainly, the bulky building does dominate its site and through its resolute simplicity brings order to an amorphous group of buildings, but unlike the Taj Mahal, for example, it fails to get more interesting as one gets closer to it. Ledoux's great plinth—base to his design—has been reduced to the token gesture of a pathetic strip of black granite.

As a pedagogical instrument illustrating the use of historical precedent, Johnson's School of Architecture is more of a quip than a statement, witty but transient. And as for the architects' truthful adherence to Ledoux, one must recall Oscar Wilde's observation, "Sincerity is the greatest artifice."

Peter C. Papademetriou



INI in Barcelona.

### Making Way for Mies

Part of the price paid by Barcelona for the rebuilding of Mies van der Rohe's 1929 German Pavilion (page 61) is the demolition of the 1950s National Institute of Industrial Development (INI) headquarters. Built long after the original Pavilion was taken down, the INI trespasses on its precious space. Although INI's front façade (above) is not without interest, the rear view from the Pavilion is less felicitous.

Barcelonans will shed no tears over INI's demise, now imminent. They regard the building as a symbol of Franco-era Modernism imposed on the city by Madrid. In its place will rise a replica of the Classical colonnade seen (in shadow only) in traditional black and white views of the Pavilion entrance. Daralice D. Boles

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**Crafts** (continued from page 33) tect and historian Robert Jensen moderated the discussion by David Gebhard from U.C. Santa Barbara; Barbara Goldstein, Deputy Director of the Los Angeles Task Force for the Arts; Albert Paley, architectural metalsmith resident at the School for American Craftsmen, Rochester Institute of Technology, and Alan Temko, architecture critic for the San Francisco Chronicle.

These speakers outlined several trends that have contributed to a growing demand for architectural crafts. Ornament is once again a desirable element in building design. The historic preservation movement has brought craftsmen new employment and inspired special training programs in crafts. Finally, the One PerCent for Art Programs have won public support in many cities, making art part of the political planning process.

In light of these positive developments, the panelists agreed that collaboration between architect and craftsman or artist is a prime issue. The phenomenon of "plop art in the plaza," now so decried, was blamed on the typical practice of delaying the artist's involvement in the design process until after many decisions affecting the prospective work have already been made. Paley, the only designer/craftsman on the panel, presented his metalwork and made the point that collaboration was integral to its creation. Though eminently successful in marrying his art with architecture, he agreed with the other panelists that collaboration could be perilous.

Goldstein raised the issue of standards, distinguishing the quality demanded of art from that demanded of architecture. The public, she said, finds it easier to respond to art negatively or positively than it does to buildings, which rarely stimulate the extensive commentary that art provokes. Goldstein also called attention to the need for craftsmanship in street furniture, including manhole covers and streetlights. Alan Temko suggested that, as a way of supporting the crafts and ensuring continuity in design, large offices should hire in-house craftsmen.

In general, the good news is that, in the last 20 years, we have got past the stage of wondering how to revive the crafts to that of wondering how to use them to full advantage. *Sally Woodbridge* 



Chapel at Ronchamp as modeled on McDonnell Douglas's GDS Solid Modeler software and printed, originally in color, on the new Seiko hard copy unit.

### A/E/C Systems: PC, PC, PC

The big news at this year's A/E/C Systems, held June 23–27 at Chicago's McCormick Place, was predictable and pervasive: All vendors, big and little, offered CAD software systems for the personal computer. The reasons were obvious to anyone glancing at the Autocad booth, which was swamped throughout the show: The greatest number of architects want affordable and approachable systems. The advantage offered by the PC software of the big vendors, including Intergraph, McDonnell Douglas, Computervision, Calcomp, Sigma, Prime, is upward mobility, with software that can communicate with the respective vendors' more sophisticated systems, acquired if needed as the architectural office grows. As a result of the PC trend, says the Cambridge, Mass., market research firm Daratech, Inc., the worldwide use of CAD/CAM AEC systems is growing by 10,000 units per month, while revenue growth slows: 1986 industry revenues are forecast at \$4.3 billion, a growth of 22 per-(continued on page 37)



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Also predictable was the proliferation of application software packages, offered as part of turnkey vendors' systems as well as by established software companies such as the Computer-Aided Design Group, experts in facilities management systems, and SKOK (now out of the hardware business), and by newly formed companies, such as Search Innovations from Tulsa, Okla., whose first offering will be a basic site planning program, and Designers Research from Boulder, Colo., whose FeePerfect is a computerized fee calculator/project manager.

The more popular lectures and seminars included a talk by William J. Mitchell of UCLA, part of the concurrent conference on The CADD Revolution in Design Education; and anything dealing with office management, whether or not computer related.

Also announced during the week of the show were the winners of the first student design competition using CAD, a laudable effort sponsored by *Guidelines* magazine. *Susan Doubilet* 

### The British Invade Aspen

Britain's current design boom triggered in part by burgeoning government interest there in using state intervention to encourage the production of better designed, and therefore more exportable products, and in part by the conspicuous success of design-led businesses like that operated by Sir Terence Conran—was the underlying reason for the choice of the UK as the subject of this year's design conference at Aspen, Colo.

Conference organizers Rosamind Julius, long associated with Hille, one of Britain's very few high profile, high design furniture companies, and Kenneth Grange, industrial design partner with Pentagram, attracted a broad cross section of British talent. Fashion was represented by Bruce Oldfield and Zandra Rhodes, architecture by Norman Foster and James Stirling, art by David Hockney (who used his speech to claim that "modern art has yet to triumph, although I'm sure it will"), photography by Norman Parkinson, and film by David Putnam, who had, at the time of the conference's opening, just been offered the presidency of Columbia Pictures.

The event was billed as only the third conference at which one country had been singled out for the Aspen spotlight after Italy and Japan. In fact the British encountered almost as much of a language barrier as did their predecessors. British English and American English are now so far apart that they have nearly reached the point of mutual unintelligibility. Fundamentally, the two different versions of the same language represent two entirely different attitudes: the British self-deprecatory on the surface, although with an underlying arrogance; the Americans super confident, but beneath it, ultra conformist.

Any British discussion of design and architecture is predicated by doubt and despondency, and any American one by ebullience. Hence, both Foster and Rogers spoke at length of the difficulties of working at home, and the far more positive response that they get abroad, where both have unprecedented amounts of work. (Foster reported two new projects-a radio station and broadcasting center in Mexico City, and a headquarters complex in San Francisco.)

Peter York, Britain's answer to Tom Wolfe, gave a presentation that dwelt at length on the presumed American difficulties with irony and nuance, and the hold they have on the English. And he offered a vision of Britain as, if not the theme park foreseen by Tom Wolfe, then at least a place in which the production of "software"-design, fashion, and style-assumes much more significance than "hardware," that is, the actual production of things, an area that Britain has all but abandoned.

Despite the difficulties both had encountered, Foster and Rogers were able to present major new projects at home: Foster his new airport terminal building at Stansted, London's third airport, and Stirling his museum of sculpture housing principally the works of Henry Moore, at the Tate Gallery, which follows his work there for the Clore Gallery, devoted to the museum's Turner collection and due to open next year. *Deyan Sudjic* 

The author is the editor of Blueprint, Britain's magazine of architecture and design, and architecture critic for the Sunday Times.

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### P/A Calendar



Gottfried Böhm, Church at Neviges, AIA, Sept. 6.

#### Exhibits

#### **Through August 24**

Lawrence Halprin: Changing Places. Museum of Modern Art, San Francisco.

#### **Through August 31** Shaker Design. Whitney Mu-

seum of American Art, New York.

#### **Through September 1**

Frank Lloyd Wright and the Johnson Wax Buildings: Creating a Corporate Cathedral. Renwick Gallery, Washington, D.C. (P/A, April 1986, p. 27).

#### **Through September 7**

Warren H. Manning, Landscape Architect, 1860–1938. Glyndor Gallery, Wave Hill, Bronx, N.Y.

#### **Through September 14**

Virtu 85: Residential Furniture. Le Chateau Defresne, Montreal.

#### **Through September 21**

Proposal for a Guggenheim Museum Addition: A Showcase for Hidden Treasures. Guggenheim Museum, New York.

#### **Through October 22**

Vienna 1900: Art, Architecture and Design. The Museum of Modern Art, New York.

#### **Through October 31**

Ornamental Architecture Reborn: A New Terra Cotta Vocabulary. National Building Museum, Washington, D.C.

#### **Through November 23**

Building a Borough: Architecture and Planning in the Bronx, 1890–1940. The Bronx Museum of the Arts, Bronx, New York.

#### August 8–October 5

Oskar Schlemmer. San Francisco Museum of Modern Art.

August 13-September 11 Richard Haas: Drawings, Prints & Projects. Gallery at the Old Post Office, Dayton, Ohio.

#### September 1–October 26

Tokyo: Form and Spirit. Museum of Contemporary Art, Los Angeles.

#### September 4-January 1

The Function of Ornament: The Architecture of Louis Sullivan. Chicago Historical Society.

#### September 6–October 3

Connections: Architectural Drawings by Gottfried Böhm. AIA Building, Washington, D.C. (P/A, June 1986, pp. 23, 25).

#### September 21–November 16 The Architecture of Frank Gehry. Walker Art Center, Minneapolis.

#### **October 3–December 21**

New Architecture: Foster, Rogers, Stirling. Royal Academy of Arts, Piccadilly, W. 1, London.

#### October 10-January 4

Drawing Toward Building: Philadelphia Architectural Graphics 1732-1985. Pennsylvania Academy of the Fine Arts, Philadelphia.

#### **Competitions**

#### August 30

Submission deadline, Buffalo Place Design Competition. Contact Robert G. Shibley, School of Architecture, 3435 Main St., SUNY/Buffalo, Buffalo, N.Y. 14214.

#### August 31

Registration deadline, International Concept Design Competition for an Advanced Information City. Contact Akihide Mimura, The Mainichi Newspapers, 1-1-1, Hitotsubashi, Chiyoda-ku, Tokyo 100, Japan.

#### August 31

Submission deadline, Landmarks Preservation Council of Illinois Prizes for HABS Measured Drawings. Contact LPCI, 407 S. Dearborn St., Suite 970, Chicago, Ill. 60605.

#### September 8

Postmark deadline, 34th P/A Awards. See July, p. 17, for information and entry form.

#### September 15

Deadline, Designs for Peace, Mail Art Exhibition sponsored by Architects, Designers and Planners for Social Responsibility, Orange County Chapter. Contact Designs for Peace, % Stacy Dukes Design, 3093 Harbor Blvd., Santa Ana, Calif. 92704.

#### September 15

Registration deadline, Dayton View Historic Association Infill Competition. Contact Dayton View Historic Association, Inc., P.O. Box 113, Mid-City Station, Dayton, Ohio 45402. Jeffrey Wray (513) 461-4694.

#### September 15

Deadline, Resources Council 16th Annual Product Design Awards. Contact Resources Council, New York Design Center, 200 Lexington Ave., New York, N.Y. 10016.

#### September 30

Deadline, 1986 Concrete Buildings Award Program. Contact Glen Simon, Portland Cement Association, 5420 Old Orchard Rd., Skokie, Ill. 60077 (312) 966-6200

#### October 31

Deadline, 1986 Wood Remodeling Design Award Program. Contact American Wood Council, 1250 Connecticut Ave., N.W., Suite 230, Washington, D.C. 20036 (202) 833-1595.

#### November 1

Deadline, Second Classical America Competition. Contact Classical America, P.O. Box 821, Times Square Station, New York, N.Y. 10108.

#### Conferences

#### August 17-21

Illuminating Engineering Society 80th Annual Conference. Boston Marriott Copley Place, Boston. Contact Jack Richard, IES Headquarters, 345 E. 47th St., New York, N.Y. 10017 (212) 705-7926.

#### August 18-22

SIGGRAPH '86: Computer Graphics and Interactive Techniques. Contact Conference Management, Smith, Bucklin & Associates, 111 E. Wacker Dr., Chicago, Ill. 60601 (312) 644-6610.

#### September 4-6

Main Street: National Town Meeting. Winston-Salem, N.C. Contact National Main Street Center, 1785 Massachusetts Ave., N.W., Washington, D.C. 20036 (202) 673-4219.

#### September 11-14

Inter-American Forum for Architecture. New Orleans, La. Contact New Orleans Chapter AIA, 330 Exchange Alley, New Orleans, La. 70130 (504) 525-8320.

#### September 19-20

The 1985 Mexico Earthquake: Factors Involved and Lessons Learned. Mexico City, Mexico. Contact Elizabeth Yee, American Society of Civil Engineers, 345 E. 47th St., New York, N.Y. 10017.

#### October 9-11

Designer's Saturday. New York. Contact Linda Foa, Designer's Saturday, 911 Park Ave., New York, N.Y. 10021 (212) 249-5237.



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#### P/A PRACTICE

**Computers** (continued from page 47) • Graphics: One thing all job cost packages do all too easily is produce reams of reports. It is easy to imagine valuable people spending valuable time trying to make sense of oceans of columns of numbers, when a bar chart would tell them in an instant whether they were winning or losing that week. Every vendor handles this in one of two ways: either by offering a way of putting data out to one or more spreadsheet formats, or by offering their own graphics program.

• "Real-time" and counting period reporting: Real-time job cost reporting simply means that at any moment, any manager or principal can see what the most recent labor and expense data imply for project performance. This capability is crucial, because it means that the moment a manager has entered data, the system can begin computing and presenting the data's management implications.

• *Flexible and diverse methods of overhead allocation:* All of these packages offer some choices in how overhead can be allocated. Every package allows you to spread overhead uniformly over projects for a given month. Nearly all also allow different overhead rates for different projects.

#### **The Products**

Harper & Shuman-Harper & Shuman give the impression that they don't sell accounting software, but that they help companies improve their bottom line. As Paula Hunter of Charrette, an A/E software distributor in Boston has pointed out, "For the company whose principals have little financial management experience, this is a good product because there is so much explanation in the documentation of the pros and cons of various invoicing or overhead accounting options."

Harper & Shuman began by offering minicomputer-based accounting systems to larger A/E firms, and its focus is still the A/E market. Like some others, the design of their package appears to have begun with job costing, and the other accounting modules have inherited that design, sometimes limiting the range of their functionality. But this should be balanced against the benefits of the company's focus on the A/E market.

Jack Michael Suben of Suben Partnership in New York has been a Harper & Shuman client for some time. "A friend of mine with a lot of financial experience

with a large architectural practice advised me in late 1984 that I should buy this package. I spent two months, almost every night and weekend, learning how to use my first computer, and the accounting package. The service from my distributor was terrible, so I switched to direct service from Harper & Shuman. My accountant took a look at the package and said that it was a waste because it just didn't give him the audit trail he needed. At that time, the package had no Accounts Pavable side, and their Accounts Receivable, although very solid, did not automatically generate invoices. They have since added these capabilities. I have solved the audit trail problem by using the company's spreadsheet interface module.'

MicroTecture-While this company's job cost/integrated accounting product has not yet been released, it is significantly different from the other packages. To begin with, this is the most expensive product of those reviewed. This is not just because the list price of the software itself appears to be at the high end of the range, but because the MicroTecture product will only run on a personal computer equipped for relatively high resolution. The enhanced graphics adapter and color monitor needed in addition to your computer will add about another \$1300 to the cost.

What do you get for that high resolution? According to Bob Felix at MicroTecture, it means you get 3440 instead of 1920 character positions on the screen, or about 80 percent more. Felix says that this allows the software to conform more closely to guidelines established by the AIA for project cost accounting. This is not a clear advantage, although to a firm used to employing the AIA forms, it would certainly ease the transition to automation.

The MicroTecture product has several other aspects that make it unique among this group of products: It shares some data with MicroTecture's CAD product (which has been out since late 1984, and which requires the same high resolution setup), it has the most advanced software engineering of any of the products, and it will soon have a powerful business graphics module that can be used to prepare graphics from financial data.

MicroTecture has made good use of color with the high-resolution screen, and has made an effort to use the function keys on a personal computer to achieve as many operations as possible. At any point in the operation of the software, pressing a particular function key will display a map of the software, with a "You are here" indicated. This is a superb feature. Integration with CAD is an exciting direction in non-CAD software. In MicroTecture's case, the integration is slight. According to MicroTecture, if you are using their CAD and business product, each time someone uses the CAD program, the user's identity, project and client identity, design phase, and time statistics can be automatically recorded and transferred electronically to the business package. This allows you to capture data on how your CAD program is being used.

MicroTecture also pays considerable attention to accounting for professional time and overhead. The product tracks not only billable time, but also professional time that is neither paid nor billed. This allows you to have the best possible sense of what effort is actually being expended. The product also has an advanced method of overhead allocation, taking the average of year-to-date overhead costs as a function of total direct salary expense and assigning this overhead to each project. Timberline-This company has combined its job costing/project management module for architects and engineers with its existing accounting package. In some of the accounting areas of the system, this results in terms inappropriate to architecture-one client, for instance, reports places in Timberline's data entry for union wages and pay garnisheeing. However, unlike companies concentrating on the A/E market, Timberline offers considerable power outside the job costing module, as well as sup-

such as Accounts Payable. Harry C. Hallenbeck, of Hallenbeck, Chamorro & Associates, is a Timberline client. "We chose Timberline because it was a fundamentally sound accounting package," he says. "We wanted to have a strong supplier who knew the accounting rules." Hallenbeck also likes the solidity that effective documentation of performance history can give a firm: "We can talk to our banker better." He thinks that he and the principals are better able to focus on key information: "Now I can say, 'What's our performance for this client?' '

port staff in particular areas,

A useful feature of Timberline's software is its Help window. If, for instance, you need to enter an employee name on the timecard input screen, you can "open" a window on the screen that displays a list of all employees on the system.

Of all four microcomputer packages, Timberline's is probably the most easily expanded. because of the strength of their non-job-costing components. Because of the relative strength of their non-job-costing modules, Timberline's product is also the best suited for consideration by design/build firms. Wind-2-Although the earlier version of this product is the least integrated and probably the least expensive of the group, Wind-2 promises a level of performance in their newest package that will bring it roughly even with the other three. The Wind-2 client sample was the most enthusiastic of any interviewed; its users describe it as one that's easy to understand and learn.

The Wind-2 product was designed by consultants who later focused much of their company's energy on the A/E market. Features that seem particularly effective include several standard billing formats—a useful element given the variety of A/E billing types. You can build your own billing format as well. Another unique feature of this product is that it includes a cost proposal preparation module.

A strong feature of the product documentation is its constant emphasis on why you are performing particular operations while using the software. For instance, each standard report format has a plain English explanation of why you would ever want that particular stack of paper in the first place. Yet samples in the documentation of each standard report are so small that they are almost impossible to read. The Wind-2 product documentation has one of the best indices explaining error messages, a real plus to any reader who dislikes the usual terse, punishing phrases.

Steve Tucker of Dean Tucker Shaw says that one reason he is purchasing the product is that Wind-2 will allow him and his staff to name their projects using both letters and numbers.

The Wind-2 product is unique for another reason: While all accounting software packages have a database product at their core, Wind-2 is one of the few that make the database language itself available. Theoretically, this means that you can program other office database applications (P/A, May 1985, pp. 57–58) using this language, and they (continued on page 55)



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#### THURSDAY OCTOBER 9 Facilities Management Day

Designer's Saturday showrooms open 9:00 am to 5:00 pm. Lunch served at 12:00 noon. Four one-hour presentations held at participating showrooms, beginning at 9:00 am, 10:30 am, 1:30 pm and 3:00 pm. A schedule of seminars will appear in the September issue of this magazine. Admission tickets not required.

#### Evening

Cocktail Reception, 5:30 pm to 7:30 pm, for facilities managers and designers will be held in The Equitable Tower Employee Dining Room, 50th Floor, 787 Seventh Avenue at 52nd Street. Paul Goldberger, architecture critic of The New York Times, describes this room designed by Kohn Pedersen Fox Conway as "...surely the grandest dining space ever put on top of a skyscraper." Whitney Museum branches open in the lobby. Admission tickets, \$40. Clip and return card.

#### FRIDAY OCTOBER 10 Morning

IBD/Contract Magazine Product Design Awards Breakfast, 8:00 am to 10:30 am, Plaza Hotel, Grand Ballroom, Fifth Avenue at 58th Street. Admission tickets, \$50. Contact: IBD National Office, 312/467-1950.

#### Day

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#### Evening in Manbattan

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Day

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#### Evening

Designer's Saturday Gala Reception, 7:00 pm to 9:00 pm. The Metropolitan Museum of Art, Fifth Avenue at 82nd Street. Buffet and bar in The Temple of Dendur. Refreshments and entertainment in The American Wing Courtyard features a Country Rock group from New York's famous Lone Star Cafe. Preview "Treasures of the Holy Land: Ancient Art from the Israel Museum," the largest, most important collection of ancient Israeli art ever to travel abroad. Gift shops will be open. Admission tickets, \$20 (a tax-deductible contribution to the Museum) purchasable at member showrooms or at the Museum on Saturday evening.

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#### P/A PRACTICE

**Computers** (continued from page 48) will be compatible. Unfortunately, the package used ("O'Hanlon Database Solutions"), while a bestseller in Europe, is little known in this country, so you will have fewer resources available to you in terms of programmers who already know the language.

#### **Choosing a Package**

1 Criteria-Using the list of criteria earlier in this article, make sure you are satisfied, both in your conversations with the salespeople, and with the references they give you. Even among the packages shown here, there are considerable differences in style, depth, and functionality. 2 Support—If your office has few people trained in financial or business management, support is the first and last thing you should ask about. Paula Hunter of Charrette, who has installed almost 100 of these kinds of systems in A/E offices, indicates that support is crucial, particularly because the office accountant or principal just does not get as involved in setting up the system as he or she needs to be.

For the products reviewed, support takes the form of on-line help, product documentation, telephone support, training, and newsletters. Harper & Shuman also host an annual user conference. Given these conditions, the documentation the company provides is extremely important. Unfortunately, the documentation for every product reviewed here was uniformly well below the standard being set by the large, nationally known software publishers who have larger customer bases over which to spread their documentation investment. The first publisher to combine clear language with quality of software operation will be at a huge advantage. 3 Price—The software systems reviewed for this article are all sold with job costing (sometimes called "project management") as a separate module. For a full accounting software system, the price range is from about \$3500 for the limited version of the Wind-2 One Plus product to about \$6000 for MicroTecture's.

Given this relatively narrow range among the products, it is much more important that you feel you are getting what you want than that you save one or two thousand dollars. Educating your office in the system's use will be much more expensive. A system that does not effectively involve principals and project managers is worth a hundredth of one that does, and your instincts about that before you buy are the best guide.

Even though it's extra, seriously consider taking a support contract for the product, given the earlier description of system documentation.

4 Hardware—There are two potential problem areas with all these products that may waste time, and which you should look at carefully. The first is the time that it takes the computer to post data to your various accounts once your labor and expense input has been verified. The second area is the time it takes to input data itself.

Some choices in hardware can

mitigate these problems. First, run this software on one of the computers that uses the 80286 processing chip, such as the H-P Vectra, or the Compaq 286. Second, use a "print spooler" with your computer. This is a software device that allows the computer to go on to its next operation before the printer has finished with the last group of material sent to it. Third, a hard disk is a must. Last, affordable 200 + characters per second printers are everywhere these days; acquire one if at all possible.

5 Office size—According to many experts, the accounting and job

costing of a 25-person office is about the most that a single microcomputer can handle. There will simply not be enough time to input, process, and report on the data generated by business activity much above this level.

This does not mean that offices larger than this cannot be supported by microcomputerbased job costing and accounting software. It just means you will need more than one microcomputer, ideally linked in a network. At least two publishers reviewed, Timberline and Harper & Shuman, sell networked versions of their pack-(continued on page 56)

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**Computers** (continued from page 55) ages, although Timberline's is said to be more advanced, since it supports "file-locking" and "record-locking," which are ways to make sure two people aren't altering the same data at once.

#### Conclusion

Over and over, architects interviewed for this article indicated that the benefits of job costing software included "better information," or "more of an idea about how we're doing." What changes can this software bring to a firm? Jack Suben of the Suben Partnership has a few ideas: "In some cases, we saw early on that our pricing on a given project had been way off, and we settled with the client. My contractual habits also have changed. Before I had the computer, the longest contract I ever wrote was four pages. The conventional wisdom is that 20 percent of your fee goes to construction administration. From my brief analysis of my job costing reports, the actual percent of our fee spent is more like 30 or 40 percent. As a result of this insight, the average contract is now 10 pages, simply because I saw we were losing a lot on construction administration and needed to make our contractual language tighter. Now, if the clients won't pay us hourly, I will in most cases require that they hold us harmless after the completion of construction drawings. This helps in two areas: fee and liability. It may make us less competitive for some jobs, but were those the ones we really wanted? I think.not."

Job costing, as the first step in a phased process to automate your financial information system, will certainly save time and improve the credibility of your information. With some work, you can also use it to increase noticeably the quality of management and the level of profit. If you work with these tools to make this happen, it isn't stretching the point to say you will also have raised the self-esteem of every person in the firm. *Allan Ackerman* 

The author has an architecture degree from Harvard and has worked as a manager, marketing consultant, and teacher in the area of software applications for architectural and engineering professionals for the past six years. He currently practices in Cambridge, Mass.

#### **Software packages reviewed** 1 "Architect/Engineer I" from Timberline Systems, Inc., 7180

Timberline Systems, Inc., 7180 S.W. Fir Loop, Portland, OR 97223; (503) 684-3660. 2 "Wind-2 One" from Wind-2 Research, Inc., 419 Canyon Ave., Suite 315, Fort Collins, CO 80521; (303) 482-7145.
3 "MicroTecture Project Costing" from DataGraphic Systems of Virginia, Inc., 218 West Main St., Charlottesville, VA 22901; (804) 295-2600.

4 "MICRO/CFMS<sup>®</sup> Project Control System" module, from Harper & Shuman, Inc., 68 Moulton St., Cambridge, MA 02138; (617) 492-4410.

An excellent detailed checklist for what features to ask for in integrated accounting packages, as well as reviews of many of those packages available on the general business market, can be found in the August 1985 issue of *Software Digest*, which is available for purchase by mail for \$45.00 from: Circulation Department, Software Digest, Inc., One Winding Drive, Philadelphia, PA 19131.

The text most frequently referred to by the software publishers mentioned in this article for more detail on accounting and job costing practices for architects is *Financial Management for Architects*, Robert F. Mattox (1980), published by AIA.

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#### P/A PRACTICE

#### Law (continued from page 47)

In making this ruling, the Court also held, however, that such an exculpatory clause would not be enforceable, and would contravene acceptable notions of morality, if the actions of the owner or his representatives that caused the delay were intentional, fraudulent, malicious, or so grossly negligent as to reflect a reckless indifference to the rights of others. Those exceptions aside, the Court's ruling appeared to provide a way of prohibiting contractors' delay claims, not only in public contracts, but in private construction contracts as well.

In a series of recent rulings, however, the same Court, in

interpreting its 1983 decision. appears to have "backed off" partly from some of the implications of its precedent-changing decision and to have narrowed the enforceability of an exculpatory clause relieving owner or architect from liability arising from his or her own fault. In each of these 1986 rulings, the Court reaffirmed the principle that contract clauses barring a contractor from recovering damages for delay in the performance of a contract are valid even if the delay results from a broad range of reasonable and unreasonable conduct by the owner or his representatives "if the conduct was contemplated by the parties when they entered into the agreement." The concept of "contemplation" did not expressly appear in the 1983 decision as a condition for enforceability of exculpatory clauses. By introducing it in these latest rulings, the Court narrowed the application of its earlier ruling and opened the issue as to what conduct is, or is not, in the contemplation of contractor and owner when a construction contract is executed.

Some guidance on that issue can be found through reviewing the facts of the 1986 decisions. In one case (*Civetta*), the construction of a sewer line was to be completed in 100 days. Construction actually occurred over a 400-day period, and the con-



tractor sought \$162,000 in damages. The contractor cited as causes for such delay the City's moratorium on street openings, three subsurface conditions that were not disclosed on the plans, and delay resulting from a dispute with the City over the type of pipe joint to be used on the project. The Court found that an addendum to the construction contract put the contractor on notice that no work would be permitted during the moratorium. The delay arising from the moratorium was, therefore, clearly contemplated by the parties. Regarding the unanticipated subsurface conditions, the Court pointed out that the contract provides that the contractor assume responsibility for any loss or damages arising out of any unforeseen obstructions or difficulties. Consequently, said the Court, this cause of delay was also in the contemplation of the parties. As to the third cause for delay, relating to a dispute over the type of pipe to be used, the Court found this delay also in the contemplation of the parties since it arose from the efforts by the contractor to substitute material for that specified.

In a second case (Honeywell), the contractor sought delay damages of \$1,300,000 arising from the construction of a system of data logging and instrumentation. The basis of this claim was defective and inadequate plans. The Court, however, concluded that the delay in question was largely attributable to the electrical contractor, and since the plaintiff contractor was required to coordinate his work with that of all other contractors, the delay, arising from the failure of another contractor, was in the contemplation of the parties.

In any event, these recent rulings have created substantial doubts as to the viability of a contractual provision protecting an owner or architect from delay claims arising from his own faulty conduct or performance. The rulings also indicate that each situation will be separately evaluated to determine the enforceability of such an exonerating provision.

Norman Coplan, Hon. AIA

The author is a member of the law firm Bernstein, Weiss, Coplan, Weinstein & Lake, New York.

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## BARCELONA

UGUST

Reconstruction of the Barcelona Pavilion, built to the design of Mies van der Rohe in 1929 but demolished shortly thereafter, exposes qualities of color, light, and space not conveyed in historic photographs.



The rebuilt Barcelona Pavilion on the grounds of the 1929 World's Exposition.

#### **Barcelona Pavilion**

AMONG the icons of Modern architecture, Mies van der Rohe's Barcelona Pavilion had an exceedingly short life, lasting barely eight months, but it went on to become the most celebrated no-longerexisting building of the 20th Century. Now, nearly 60 years later, the Pavilion has been reconstructed on the very spot where it stood during the World's Exposition in the summer of 1929. Inaugurated last June, after years of trans-Atlantic correspondence and research and 16 months of construction, the replica Pavilion has been completed at the cost of one million dollars.

Mies van der Rohe was originally commissioned in 1928 by the Weimar Republic to design two buildings for the exposition that would represent the new Germany. One was an exhibition space to display industrial products, designed in collaboration with Lily Reich, the interior designer; the other was an architectural space to be expressive of the industrial potential of the country. The distinction is worth noting. The latter-Barcelona Pavilion-in fact had no functional program and nothing to show except itself. It also demonstrated Mies's immense talent. Although few architects or critics saw the actual building that year, the Pavilion was critically acclaimed. Neither Philip Johnson nor Henry Russell-Hitchcock ever saw it, yet they included it in their International Style show at the Museum of Modern Art in 1932. The Barcelona Pavilion became an instant celebrity. As Arthur Drexler wrote in 1960, even if Mies had not built anything else, the German Pavilion would assure him lasting fame.

During the exposition, the Pavilion itself was not the most popular, nor the most visited exhibition building. That honor fell to the Pueblo Español, a small collage city representing each region of Spain. While the Pueblo Español remained in place and has been in continuous use to this day, the Pavilion suffered a different fate. It was dismantled; the marble was returned to Germany, and the steel sold for scrap on the spot.

The recent history of the Pavilion's reconstruction can be traced back to 1957, when Oriol Bohigas, then secretary of the Grupo R (a group of Catalan architects), wrote to Mies in Chicago proposing reconstruction. Mies replied, saying he would supervise the project at cost, but he feared materials would be extremely expensive. Nothing came of that first attempt. In the late 1970s, two other Catalan architects, Emili Donato and Ignasi de Solá-Morales, separately pursued the issue again. Both felt the Pavilion should be rebuilt in time to commemorate the 50th anniversary of its construction. Again the idea died. But in 1981, when Bohigas was appointed director of Barcelona's Department of Urbanism, he immediately initiated the Pavilion project and helped create the Mies van der Rohe German Pavilion Foundation (Rosa M. Subirana, Director) to supervise construction and maintenance through public and private financing. Three local architects were named to oversee the reconstruction: Cristian Cirici, of Studio Per (which includes Oscar Tusquets, Lluis Clotet, and Pep Bonet), Fernando Ramos, director of Barcelona's School of Architecture, and Professor Ignasi de Solá-Morales, the historian and critic.

Reconstructing the Pavilion proved to be a tremendous, almost scientific undertaking. Original photographs, sketches, and drawings, some of which provided contradictory information, were consulted. The original set of working drawings had been lost for years. The largest part of extant material was found in New York, at MoMA's Mies van der Rohe Archive, and part was extracted from local newspapers of the time. Several functional, material, and detailing decisions were made at the outset. First, the Pavilion had to be as faithful as possible to the original conception. Second, the new building, unlike the original, had to be permanent without altering visible detailing. Finally, the building had to retain its obvious open qualities while serving as a formal reception and exhibition space.

To accommodate the first priority, the architects felt it necessary to create a hollow podium, so that drainage inclines could be avoided. Even a slight inclination of one percent would not permit every wall to meet the base at 90 degrees, as in the original. In the replica, rain and possibly snow will drain in between travertine marble slabs supported underneath by steel posts, like a computer-room floor. (Standing water would seep into the stone by capillary action and darken

it over time.) Drainage from the roof slab is concealed inside the marble walls. The green marble slabs (1m x 2m) for the exterior walls are also mounted on steel supports to allow for servicing or replacement at a future date.

In order to maintain the Pavilion without its disputed glass doors (Mies originally designed it without them, but two pairs were installed later), the architects installed an invisible light beam alarm system (donated by Siemens). This system, coupled with round-the-clock security guards, will protect the building and grounds from intruders. The roof slab incorporates heating coils embedded in the concrete, which will radiate heat during evening or winter functions, thus avoiding visible grilles and radiators altogether. Only the small annex, which will be used as office space by the Foundation, will be air conditioned by concealed units.

The original chromium-plated mullions and cross-shaped columns proved vulnerable over time. During experiments in situ, the chromium plating oxidized, requiring constant maintenance and polishing. In its place, the architects specified polished stainless steel, which is virtually maintenance-free without losing the sparkling qualities intended by Mies.

Interior day and evening lighting is accomplished by means of a glass light chimney duplicating that designed by Mies. During the daytime, the chimney will glow with natural sunlight from a skylight above, and at night it will be artificially illuminated from within. It is interesting to note that the technology used in 1929 to sandblast glass of such large proportions (3m x 3m) is no longer in use today, prompting the architects to settle for standard white opaque glass. Additional artificial lighting will be provided as required by movable floorlight cans.

Replicating the original green-tinted glass remained a problem: how to determine from black-and-white photographs its reflective qualities, tint, shade, and degree of transparency. The architects tried several samples, photographing them against natural light and comparing them to period photographs. They finally selected the one they thought came closest, but this substitution will always remain the subject of debate.

On first observation, the reconstructed Pavilion is spatially magnificent and materially sublime. Most striking, however, in the translation from photographs to reality, is its monumental character, never before captured through camera lenses. Georg Kolbe's statue Evening has always provided the wrong visual scale. In published photographs, which never included a human figure, the statue appeared life-size; in fact it is not, but taller. In proportion, the walls, which always seemed not very tall, are in fact rather monumental. The statue, coupled with Mies's idea that there be no scale-providing elements, such as moldings, on the walls, left our eyes without any real clues as to actual scale. Another aspect now perceptible is the complete casualness of the spaces within, in contrast to the geometrical or structural rigor most people associate with Mies van der Rohe. Although the plan is a suprematist composition, the Pavilion spatially is a more picturesque composition of naturally flowing open spaces. The Pavilion is both opaque and transparent, from side to side and front to back. As Kenneth Frampton has pointed out, both the marble walls and the glass partitions are reflective: The glass, which reflects marble patterns, seems solid, while the marble, reflecting glass mullions and interiors, seems transparent.

Any faithful reproduction remains just that: a copy, a facsimile. Without the original Zeitgeist of the age that inspired it or the original mind that conceived it, the new Barcelona Pavilion may just become a souvenir of the Modern past that was, but no longer is. Everything that has been said and written about the building will probably now have to be said and written again, but this time with the protagonist close at hand. Mies's critics may still wonder: Why go through all that trouble? Why bother to revive the Pavilion? Why rebuild it at all? Philip Johnson may just have the right answer: "... and why not?"

#### Warren A. James

The author is an architect living and working in Barcelona and New York and the editor of Ricardo Bofill/Taller de Arquitectura: Buildings and Projects, 1960-1985, published this summer by Rizzoli International.

Finding the polished golden onyx stone used by Mies for the central wall in the Pavilion (left) proved to be the most elusive aspect of reconstruction, concluded in Algeria only last February. New green-and-white marble was cut from the same quarries used in 1929, and every panel has been matched to original patterns, including vein directions.

PRESS.





BARCELONA PAVILION PLAN

The plan of the Barcelona Pavilion (above) shows the contrast of regularly spaced columns and freely placed wall planes beneath continuous roof slabs. Although not shown in plan, the ceremonial Barcelona chairs and stools donated by Knoll International (top and facing page), which were first designed for this pavilion, are as fixed in position as any rigid wall plan. The original cruciform column, termed an "analogue for infinity" by historian Charles Jencks, proved to be a technical problem; the chromium-plated columns and mullions oxidized easily and required constant polishing. They have been replaced in the replica by maintenance-free polished stainless steel (facing page). The

reconstructed pavilion preserves its purity through hidden technology: drainage from the roof is concealed in the marble wall; heating coils are hidden in the concrete roof slab; and the travertine floor is supported on steel posts to permit drainage. The glass chimney (top) admits daylight from a skylight above; at night it is artificially illuminated.

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Mies used a different material for each surface so that the wall planes might appear independent of one another even where intersecting. Color photographs make these differences in material more readily apparent. The effect is richer and more luxuriant than austere black and white photos of the original suggest.







Reciprocal views (paired above) show the main reception pavilion (bottom) and the service annex (top) which will house the Foundation's offices. The view at right of Georg Kolbe's statue, The Dancer, is one of Modern architecture's iconic images. In black and white versions of this view, the statue served as a scale figure in an otherwise scaleless composition of flat planes, free of conventional scale markers such as moldings. The statue, however, is not lifesize, but larger, and our perception of the Pavilion's size is correspondingly altered. It is in fact a far more monumental space, the article notes, than historical photographs convey.

**Project:** Barcelona Pavilion Reconstruction, Barcelona, Spain. **Architects:** Cristian Cirici, Fernando Ramos, Ignasi de Solà-Morales.

**Client:** The Public Foundation for the Mies van der Rohe German Pavilion (Rosa M. Subirana, Director).

Construction manager: Agroman. Site: Montjuic Park, adjacent to the Alfonso XIII Palace. Program: reconstruction of pavilion

designed by Mies van der Rohe to represent Germany in the 1929 World's Exposition. Major materials: polished stainless

**Major materials:** polished stainless steel, concrete, travertine, marble, onyx.

Cost: \$1 million. Photos: Lluis Casals.



### P/A Profile Suburban Stern



Architect Robert Stern finds himself on one hand designing the ultimate dream house and on the other coping with the rigid rules of speculative development. The projects shown illustrate the relationship between custom and spec commissions, detailing the experience of this "name" architect in a field he finds "abandoned" to builders.



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1 MECOX FIELDS 2 MECOX FIELDS 3 COPPERFLAGG 4 COPPERFLAGG 5 LONG ISLAND RESIDENCE 6 ST. ANDREWS 7 COPPERFLAGG 8 ST. ANDREWS 9 COPPERFLAGG 10 NEW JERSEY RESIDENCE 11 COPPERFLAGG 12 BROOKLYN RESIDENCE

ROBERT STERN is a student of the suburbs. He has written at length on the subject, editing among other works *The Anglo-American Suburb*, a much sought-after monograph published in 1981. His practice too, although based in Manhattan, is more closely identified with suburban Westchester County or Long Island. Like most architects, Stern started out designing single-family suburban houses, and residential design remains the core of his practice. Stern's "bread and butter" jobs are not the usual offices, libraries, or schools that pay the bills in other offices but one-off multi-million-dollar houses. His studio is a virtual factory for these custom commissions, and with continued practice the young architects on his staff get better and better, faster and faster at turning out signature Stern houses.

There is, however, no one Stern style. Unlike his Post-Modern peers Michael Graves or Robert Venturi, each of whom has staked out a specific and readily identifiable personal style, Stern's recent residential work plays upon a range of styles plucked at will from the history books. Stern builds in Italian (p. 78), Shingle Style (p. 74), or "Brooklyn Baroque" (p. 76). The architect still plays fast and loose with the chosen vocabulary, preferring "evocative interpretation to archaeological imitation." He has, however, largely dropped the ironic posture that characterized early works like the 1980 Lang House or the 1980 Venice Biennale booth. Cardboard classicism has given way to a more faithful, if not exact revivalism.

Stern's historicism corresponds to a general polarization of the Post-Modern movement, whose adherents have tended recently toThey are also, apparently, people who find historical forms, however interpreted, more comfortable than Modernism. "People identify with the style of their home," says Stern. "They don't want to live in a modern house which is based on the premise that comfort is bourgeois. It's not the job of the architect to tell people how to live." There's a style for every job, says he, echoing Eero Saarinen. The choice of style for Stern may be narrowly based on a local landmark, or broadly derived from a regional style. Some designs depart so radically from the original model that they create a style of their own; such is the case for a Copperflagg villa which Stern describes as "freestyle Voyseyesque English Arts and Crafts." (p. 72).

Yet for all his experimentation, Stern's forte remains the Shingle Style. It is the style in which he started, restoring and expanding summer homes by turn-of-the-century architects Peabody & Stearns and their contemporaries. Stern and his stable of young designers still show their inexperience in handling the stricter styles. Awkwardly attenuated columns and poorly spaced balusters, for example, mar a Regency-style mansion (p. 73, bottom left). The Shingle Style is more forgiving, evoked through silhouette and materials alone.

In fact, variations in architectural style make Stern's houses appear to be more different than they actually are; plans and sections show greater consistency, particularly in the use of double-height spaces and the ceremonial "Stern stair," often marked on the façade by a unique window. Stern's spec developments are essentially simpler and cheaper versions of his custom commissions, cribbing, so to



wards one of two extremes: pop art or purity. Stern himself has steered clear of the radical right; he still regards Classicism as a style, not a religion, and he practices instead a 20th-Century version of 19th-Century eclecticism. The architect sees himself as heir to two great traditions: that of the American country house, as designed by Richard Morris Hunt or Charles Platt, and that of the planned suburban development, as envisioned by Frederick Law Olmsted and Grosvenor Atterbury, or resort king Addison Mizner.

He caters to a clientele that, economically at least, has much in common with turn-of-the-century patrons of Platt and his peers. The robber barons hired Hunt; venture capitalists hire Stern. According to one Stern associate, some projects proceed without budget ceilings, and the architects themselves are not certain of the final price tag. The St. Andrews condominium community developed by golfer Jack Nicklaus (p. 70) proved that there was a market for \$850,000 homes where analysts had predicted a cap of \$250,000. Buyers include Richard Nixon's attorney, and the designer of the ET toy line, who keeps his condo for weekends only. "These are people who don't care what it costs," says St. Andrews Vice President Jim Pinto. speak, from the office's detail drawers. "We bring a discipline of geometry," says Stern. "There are no beams hanging in strange places, like you get in typical developer houses. Things line up."

As a "name" architect, Stern undoubtedly enjoys a certain clout that most architects in development cannot claim. There are, however, as this architect freely admits, limits to what any architect can accomplish in the spec builder's realm. "If you're going to do work in this sector," says he, "you have to develop new techniques for working with the market. It's totally different from dealing with Mr. and Mrs. So-and-So who want a Robert Stern house."

Stern has, however, made minor modifications to standard practice in each development. At Mecox Fields, for example, individual driveways are combined and rights-of-way waived to produce a new shared cul de sac and correspondingly larger front lawns. St. Andrews flouts conventional condominium practice, combining individual townhouses in groups of two, four, and six to suggest larger symmetrical manor houses. At Copperflagg, Stern's most ambitious planned development to date, a two-tiered system of design guidelines distin-(*Text continued on page 79*)



**Project:** St. Andrews, Hastings-on-Hudson, N.Y.

Architects: Robert A.M. Stern Architects, New York (Re Hagele, Robert Dean, Thomas P. Catalano, project architects; Anthony Cohn, Joseph W. Dick, Peter Dick, David Eastman, Preston Gumberich, Kerry Moran, Thomas Nohr, William Nolan, Diane Smith, Pat Tine, assistants).

Client: St. Andrews Company. Site: grounds of first and oldest permanent golf course in America. Program: 209 luxury condominium units, ranging from 2500 to 5000 sq ft and grouped in 2-, 4-, and 6- unit "manor houses" based loosely on turn-of-the-century clubhouse. Structural system: wood framing and trusses on concrete foundations. Major materials: fiberglass shingle roofs; wood shingle siding; gypsum board; carpet; ceramic tile; marble, oak flooring; bluestone pavers. Mechanical system: gas-fired forced air and central air conditioning for units.

**Consultants:** Glen Fries Associates, landscape; Robert A.M. Stern Architects, interior, recreation center; Alexis Ryan Associates, model units;

Robert Silman Associates, structural. General contractor: Saint Andrews Construction Corp. Cost: approximately \$100 per sq ft.

Photos: Mark Darley.

**Status:** first phase (87 units) nearing completion.

**Building materials:** see p. 114 for a composite list for all projects shown in this profile.



#### St. Andrews, Hastings-on-Hudson, N.Y.

Some preliminary site planning and unit development had already been completed by other architects when Stern was commissioned as design architect by developer/golfer Jack Nicklaus for his condominium community at St. Andrews. Nicklaus himself redesigned the golf course, the oldest in the country, to run around the hilltop "village." Stern's most significant alteration was to group the units in clusters of two, four, or six to suggest larger manor houses that have been subdivided (facing page and top right). Condominium developments commonly repeat a popular model ad nauseam in endless rows; in contrast, Stern's composition depended upon the sale of four distinct unit types. Two of these are shown in plan (below), including the distinctive end unit with its unique stair window (right, top). Pitched roofs, massive chimneys, dormer windows, picket fences, cedar shingles, and white wood trim (right, bottom, left and right) all echo the materials and details of St. Andrews's 90-year-old clubhouse, popularly attributed to Stanford White but more likely the work of an associate. The discovery of structural flaws in the clubhouse will unfortunately force its demolition.

The units themselves are unusually large for condominiums and range up to 5500 square feet. They are also the most expensive in the area. Cost savings common to repetitive condominium construction, however, were eaten up in cost overruns for custom detailing. Despite unprecedented price tags, the project has steadily lost money and was recently turned over to Chemical Bank in lieu of foreclosure. Jim Pinto, Vice President of Construction for St. Andrews, says management failed to anticipate the true costs of volume custom construction. Four years ago, when the first 87 of 209 condominiums (all are shown on the site plan, facing page) went on the market, a jittery sales staff promised any and all options to prospective homeowners. The result is 87 completely custom jobs, the equivalent of so many single-family houses. No two units are alike on the interior. "No one has ever attempted this level of custom design at this volume before," says Pinto. He suggests that there is a natural limit to the degree of customization possible in condominium construction.













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### **Project:** Copperflagg, Staten Island, N.Y.

Architects: Robert A.M. Stern Architects, New York (Stephen Falatko, project architect; Kellie Easterling, Robert Ermerins, William T. Georgis, Sarah Hunnewell, Natalie Jacobs, Warren James, Jude Le-Blanc, John M. Massengale, Kerry Moran, Thai Nguyen, Deirdre O'Farelly, Meg Parker, Roger Seifter, Constance Treadwell, Paul Whalen, Paul B. Williger, assistants).

**Client:** Copperflagg Corporation (Sanford Nalitt, principal; Charles Aquavella, project manager). **Site:** eight acres, five within boundaries of designated landmark on grounds of weekend estate of architect Ernest Flagg.

**Program:** coordinated village of nine new residences and three existing Flagg-designed structures; additional twelve residences outside landmark area of varying architectural styles but controlled siting and massing as established in looser guidelines. Houses average 4500 sq ft.

Structural system: wood frame construction.

Major materials: stone, stucco, masonry veneer, slate roofings, custom wood windows, doors, and architectural woodwork. Consultants: Bradford M. Greene, Michael Stasi, landscape; Joan Evans, interiors; Robert Silman Associates, structural. General contractor: Sukar Construction. Costs: \$110 per sq ft, average. Photos: Mark Darley. Status: eight houses completed or under construction; five in design

development.

#### Copperflagg, Staten Island, N.Y.

Situated on the grounds of architect Ernest Flagg's summer estate on Staten Island, Copperflagg is Stern's most ambitious planned suburban development to date. The grounds and Flagg's 1899 Dutch Colonial house, now occupied by a religious order, comprise a designated landmark. Those houses located within the boundaries of the protected district (tinted portion of the site plan, facing page, bottom) adhere to detailed design guidelines. These English Cotswold "cottages" (top right, and plan, bottom left) are drawn from prototypical suburban houses that Flagg designed and built on his estate. Houses on lots outside the district conform to looser guidelines specifying orientation, massing, and footprint. Stern also set a list of acceptable styles, including Georgian, English Arts and Crafts, and Italianate. Examples of each-some more faithful to the selected style than others—are under construction or completed. Although the guidelines were originally developed for use by outside architects hired by homeowners, Stern's office has designed all but two of the houses built to date. These range in style from what he terms "free-style Voyseyesque Arts and Crafts" (facing page, left) to two relatively faithful Regency examples (facing page, middle; and near right, far right and plan, bottom right). The basic notion behind the guidelinesthat of stylistic consistency within the village, reinforced by deliberate inconsistency without-is an interesting strategy aimed at the making of a unique place. It works within: The village is a cohesive, special precinct, distinct from its surroundings, and built all at once by the developer. Outside the district, however, exaggerated differences in style set in proximity produce an effect not unlike the model homes lineup in a standard builder's development.

















**Project:** Colfax at Beden's Brook, Skillman, N.J.

Architect: Robert A.M. Stern Architects (Alex Lamis, project architect). Client: Robert Tuschak, Skillman, N.J.

Site: north-facing slope of rolling, rural farmland.

**Program:** site planning and design guideline for 23 1- and 2-acre lots surrounding a common park along a perimeter ring road. Four residences designed for resale by developer, ranging from 3600 to 4500 sq ft. **Structural system:** wood frame construction on concrete block foundation.

Major materials: machine cut white and red cedar shingles, painted wood trim on exterior; wood floors, brick and marble fireplaces, and painted

#### wood trim on interior.

Mechanical system: oil furnace. Consultants: Robert A.M. Stern Architects, Brickman Industries, landscape; Robert A.M. Stern, interiors; Robert Silman Associates, structural; Robert Derector, mechanical.

General contractor: L.R. Hunt & Associates. Cost: withheld. Photos: Robert A.M. Stern Architects





#### Colfax, Beden Brook, N.J.

As they did at Copperflagg and Mecox Fields (page 75), Stern and his associates produced a site plan and design guidelines for this development in central New Jersey. Twenty-three lots are organized around a shared central park, with access easements attached to each property. The guidelines specify materials and finishes, construction methods, siting, and profile (no flat roofs allowed!). Four of the twelve houses completed or now under construction were built to Stern's design for resale by the developer. Stern's office typically reviews design documents for those houses not of their design, to ensure adherence to their general code. Says one Stern associate of the system, "It's better than not having any control, but not as good as doing it yourself." The development lacks the stylistic unity of Mecox Fields (facing page) or Copperflagg's Cotswold village (page 72), primarily because neither the site nor its neighborhood offered specific clues. In the absence of a clear model, the architects have settled for a "Delaware Valley vernacular," emphasizing the use of local stone and brick, natural slate and stucco. The house (left), which is the developer's own residence, is larger and more expensive than most (average cost at Colfax is \$600,000) but typical in its materials and massing. The front façade (bottom) with its boxy bays, recessed entrance, and outlined arch bears an unfortunate resemblance to generic builders' colonial, the signature Stern stair window at right notwithstanding. The rear façade (top) overlooking the park is a more successful composition, reminiscent of turn-of-the-century Shingle Style villas along the Eastern seaboard.



#### Mecox Fields, Bridgehampton, N.Y.

One of Stern's first developer commissions, dating from 1979 but as yet incomplete, Mecox Fields explores issues of site planning and style that emerge more fully in later, more complex developments. The site plan offers a modest but crucial innovation: individual rights-of-way attached to each plot are waived, and multiple driveways replaced by a common cul-de-sac (see site plan, below). Stern's office designed houses for each lot in one of two varieties, differentiated mainly by roof profile, which is ther gambrel (top right, and upper plan, below) or hipped (bottom right, and lower plan). The developer then proceeded to sell lot and design together as a total package. "People found that very reassuring," says Stern, "especially in the Hamptons, where you build something beautiful to your eyes and next door somebody builds something you find repugnant. This way, your neighbors are aesthetically compatible."

Aside from its regional references, the Shingle Style works particularly well for this type of development, permitting great variety in detail and plan while ensuring overall stylistic consistency. Stern considers Mecox Fields responsible for accelerating a Shingle Style revival on Long Island. Says he, "Through this project, more than the individual houses that we've done in the Shingle Style out there, we've spawned a style."









FIRST FLOOP, LOT

**Project:** Mecox Fields, Bridgehampton, N.Y.

Architects: Robert A.M. Stern Architects, New York (Roger H. Seifter, Randy M. Correll, project architects; Armand Le Gardeur, Jude LeBlanc, Thomas Nohr, assistants). Client: Harvey Shapiro, New York. Site: open 14-acre site near Mecox Bay.

**Program:** eight building lots in the subdivision, most fronting an agricultural reserve area. Each of five completed summer houses has living/ dining room, eat-in kitchen, den or guest room, and powder room, first floor; master bedroom suite and one to three additional bedrooms and baths, second floor, totaling 2400 to 3400 sq ft. **Structural system:** wood frame construction on poured concrete foundations.

Major materials: cedar shingle exterior walls and roof; painted wood trim; double-hung wood frame windows; fir decking on exterior porches and steps.

Mechanical system: oil-fired furnaces with forced hot-air heating. Consultants: Lois Sherr (two lots only); Robert Silman Associates, structural; Shelley Karten, mechanical (two lots only).

General contractor: ADK Associates.

Costs: \$80 per sq ft budgeted (1981); \$100 per sq ft actual (1985). Photos: Mark Darley.









#### Residence, Brooklyn, N.Y.

At first glance from the street, only the urns and the oculi (facing page, top) identify this house as a new addition to its 1920s Brooklyn neighborhood (see street elevation, below). Strict code requirements set the height, roof pitch, and setbacks at front, back, and side yards. The comparatively modest street façade disguises a lavish interior, which promises to be one of the most elaborate to date designed by the Stern office. All furniture is customdesigned ("We'll be picking the toilet paper for this house," says Stern). The plans show a debt to turn-of-the-century townhouse designs by McKim, Mead & White, Richard Morris Hunt, and others. The house is a compressed villa, with the principal living spaces placed enfilade along one wall and service spaces concentrated along the other (see plans, below). A double-height entry and stair hall (left) separates the master bedroom suite from back bedrooms on the second floor. The rear elevation (facing page, bottom) is a Baroque fantasy.





Project: Residence, Brooklyn, N.Y. Architects: Robert A.M. Stern Architects, New York (Alan Gerber, project architect; Anthony Cohn, David Eastman, William Georgis, Jens Happ, Kristin McMahon, assistants).

Site: 40' x 100' empty lot in 1920s residential neighborhood with strict controls for front, rear, and side yard setbacks, sky exposure plane, and FAR.

Program: four bedrooms, living room, dining room, kitchen, breakfast room, and family room, totaling 3200 gross sq ft. Structural system: wood frame with

steel reinforcing.

Major materials: steel windows, granite, stucco, brick, green glazed tile roof.

Mechanical system: oil-fired forced air; central air conditioning. Consultants: Robert A.M. Stern Architects, landscape and interiors; Robert Silman Associates, structural; Ambrosino, DePinto & Schmeider, mechanical. General contractor: Al Sollecito

Construction. Costs: withheld. Photos: Mark Darley.





#### Two Residences, New Jersey; **Residence, New York**

Two Italian-style villas on the Jersey shore draw upon local precedent, referring specifically to turn-of-thecentury Italian-style houses in the neighborhood. The smaller of the two, a summer residence (facing page), was built on the foundations of a 1950s ranchhouse. Stern cites the William H. Winslow House of Frank Lloyd Wright (River Forest, III., 1893) and the houses of Charles Platt as sources for this design. A second, larger palazzo (top left, and plan, bottom left) occupies a similar, small beachfront site, made to appear larger through the use of false perspective in its formal gardens. A third house of equal size on Long Island (bottom left, and plan, bottom right) is less specific in its stylistic references, its façade a rather freewheeling mix of Classical and Colonial vocabularies. Differences in style mask a greater consistency in plan and section, as proved by a comparison of the two plans shown below.



FIRST FLOOR RESIDENCE, NEW JERSEY








Project: Residence, New Jersey Shore (facing page, top). Architects: Robert A.M. Stern Architects, New York (Thomas A. Kligerman, project architect; Augusta Barone, Victoria Casasco, Robert Ermerins, William Georgis, Natalie Jacobs, assistants; Ingrid C. Armstrong, interiors). Site: 3.5-acre beachfront.

**Program:** 10,000 sq ft residence; 6000 sq ft recreation space, service. **Structural system:** steel and wood frame on concrete foundation. **Major materials:** Exterior: stucco with Spanish tile roof. Interior: granite and oak floors, marble, ceramic tile, gold mosaic work, plaster vaulting.

Mechanical system: gas-fired forced hot-air pulse furnaces; central

#### air conditioning.

Consultants: Robert A.M. Stern Architects, landscape, interiors; Robert Silman Associates, structural; JAC Service Co., mechanical. General contractor: Al Sollecito Construction. Photos: Robert A.M. Stern Architects.

**Project:** Residence, Long Island (facing page, bottom). **Architects:** Robert A.M. Stern Architects, New York (Charles D. Warren, project architect; Robert Ermerins, Re Hagele, Armand Le Gardeur, Grant Marani, Jenny W. Peng, assistants; Lisa Goldmann, interiors).

Site: 1.5 acres overlooking Macy Channel and tidal marshes.

#### (Continued from page 69)

guishes houses within the boundaries of the designated landmark district from those outside. The former share a cottage-style vocabulary; the latter conform to looser guidelines of siting, massing, and situation, but are differentiated by style. "The fun of it or the accomplishment is not in the individual buildings, although I think they are very nice, but in the fact that we have made a village, an ensemble which is very different from an occasional house here and there," says Stern of Copperflagg. "We are creating a sense of place where none existed."

Stern may write the rules, but the developer must execute them. "We are dependent upon the will of the client to enforce an aesthetic on prospective homeowners," he explains. His clients to date have had to modify their marketing tactics accordingly. The developer of Mecox Fields sold lot and design together to ensure stylistic consistency throughout the development. St. Andrews's design depended upon the sale of four distinct unit types which together make up the larger manor houses. "The Carnoustie model may be running hot this week," comments Stern, "but you can't just sell ten Carnousties and line them up." At Copperflagg, houses within the landmark district are being built by the developer to Stern's design all at once. "The developer feels he has to complete the village before people will really feel confident about what it is," says Stern. "People don't quite understand what we're doing."

Given a willing client, Stern fully believes he could build his own Forest Hills, the Queens community he praised in the television series "Pride of Place" as the nation's best planned suburban development. Forest Hills itself, however, fell victim to financial reality; envisioned as a blue-collar community by the Russell Sage Foundation, it quickly became a white-collar enclave for Manhattan commuters. That cautionary tale colors response to Stern's pet thesis, repeated in text and on TV. Stern would suburbanize the city. "The single-family house in a suburban setting," he asserts, "may represent our best hope for the way out of the dilemma of urban disintegration." He offers as proof the Charlotte Street development in the South Bronx, where suburban ranch houses have replaced burnedout tenement buildings in a pilot urban renewal project. "The South Bronx a suburb? Why not?" he asks, then cites the company town Pullman, Illinois, as further evidence that "enlightened architects could emulate the houses and towns of the rich to create an affordable and desirable working and dwelling environment for the less prosperous classes."

Such a vision contradicts standard urban history; the suburbs are traditionally considered the cause, not the cure of urban decline. Charlotte Street is the exception; cluster housing, not single-family houses, are the new model for urban renewal, for both middle and lower income constituencies (P/A, May 1986, pp. 92–97). It isn't Copperflagg, therefore, but St. Andrews, stripped of its custom frills, that may provide a more appropriate physical model for the suburban community of the future. *Daralice D. Boles* 

### **Program:** primary residence of 4500 sq ft.

**Structural system:** wood frame construction on reinforced concrete foundations.

Major materials: cedar shingles, brick veneer, wood trim. Mechanical system: gas-fired boiler, forced air. Consultants: Robert A.M. Stern Architects, landscape, interiors; Robert Silman Associates, structural. General contractor: Allegue Builders.

Photos: Mark Darley.

### **Project:** Residence, New Jersey Shore (above).

Architects: Robert A.M. Stern Architects, New York (John Ike, project architect; Thomas A. Kligerman, assistant; Ronne Fisher, interiors). Site: two-acre cleared oceanfront; surrounding houses of varied style, size, and budget.

**Program:** 5000 sq ft, 3-bedroom house.

Structural system: wood frame. Major materials: stucco; cedar shingle roof; wood casement windows and doors; crab orchard stone terraces and decks.

Mechanical system: forced-air gas-fired furnace.

Consultants: Lois Sherr, landscape; Robert A.M. Stern Architects, interiors; Robert Silman & Associates, structural; JAC Service, mechanical. General contractor: Al Sollecito Construction. Photos: Robert A.M. Stern Architects.

# **Reassuring Goals**

The two hospital towers are arranged symmetrically about the front entrance on the east side of the building (facing page), with the research departments housed in a rectangular box behind. As one drives up to the building, access for the various types of visitors is clear: Hospital inpatients and their guests enter straight ahead; radiation therapy outpatients turn left, entering at the south end of the building; and other outpatients turn right, entering at the north.

The choice of materials was the outcome of two forces: the university's desire to have the building fit into the campus, where buildings, of various styles, are united by their common use of beige brick; and the architects' desire to give it a sunny "Florida" feel (which from an Atlanta perspective meant the inclusion of pink, blue, or-as was finally chosen-green as contrast). After other alternatives were rejected for the main cladding material, the architects chose cast stone, which was produced on site in a number of patterns and textures. From afar, the building has an overall beige look. Closer, its horizontal bands become evident, the contrast caused not by color but by texture change; and from close, the raised latticework pattern is seen.

Blue-green materials (tinted glass, aluminum, bluestone) are used to express the two perpendicular spines and the four canopied entrances at their extremities. IN the realm of hospital design, the H. Lee Moffitt Cancer Center stands out both in the clarity of its planning and in its architects' efforts to achieve a humanizing imagery. The commission was awarded in the early 1980s, and the basic planning principles established almost at the outset have remained fairly constant; aesthetic principles derive fairly successfully from them.

Dr. Donn Smith, director of facilities planning at the University of South Florida's College of Medicine and founding dean of that college, established two directives: He wanted a strong connection between the existing Medical Center and the new hospital and research center; and he placed top priority on the proximity of patient rooms and nurses' stations within the hospital. The architects carried the first directive even farther than the doctor's proposal. "We could not totally eliminate the confusion endemic to hospital departments," says one of the architects who had a major part in the design of the building, "but we *could* make sense of the public circulation." To do that, the architects created two axial corridors, the lateral one beginning at one side with the radiation treatment center and ending at the other with the outpatient department, and the longitudinal one beginning at the front with the main hospital entrance and extending at its back to a covered passageway leading directly through the Medical Center.

Following the doctor's second directive, the architects worked out a "pod type" hospital layout rarely used in hospital design, but providing an unusually close relationship between central nurses' stations and perimeter hospital rooms, allowing a level of care and psychological support needed in a chronic care institution (see p. 83).

As to the architectural expression of the building, the architects had three major aims: to reinforce the clarity of the axial spines; to differentiate between the hospital wing and the research department; and—foremost—to make the building feel solid and reassuring, especially for those patients "who are coming here to die," as one of the designers expressed it, and as much as possible "like a normal piece of architecture."

To distinguish the spines, the designers chose a bluish-green palette to contrast with the buff of the basic building. Inside, the spines are "vaulted," using fabric-covered panels of a curvilinear shape. A Tampa hospital designed by Bentler and Heery, a joint venture (winner of a P/A citation in 1983), is noted for its admirable functional and aesthetic goals. Included is a comparison of three basic hospital layout types.

Walls are partially tiled in bluestone. The spines emerge from the building as rectilinear forms covered in bluestone, and are extended on the sides by long glass and steel canopies terminating in round pavilions and on the front by a quarter-circle canopy. Almost all the shapes involved are more complicated than necessary, and as the basic building is complex in form, the aimed-for clarity is compromised.

To distinguish the hospital section from the research area of the building, the architects massed each very differently. The research departments are housed in a big rectilinear box while the hospital takes the form of two towers whose somewhat floral plan outline is a direct response to the podtype scheme. As juror Allan Chimacoff predicted when the design was chosen for a P/A Citation (P/A, Jan. 1983, p. 106), the result is a "little bit too agitated." Most successful on the exterior is the gridded glass wall of the base, though the base of the towers, surrounded by large round concrete columns, has an unusually leggy look-the towers were built two floors shorter than designed, budget cuts at a late date being satisfied by the quick surgical method.

Most tricky was the matter of a humanistic and reassuring imagery. On the exterior, a sense of solidity was successfully achieved by the cast stone. Within and without, the colors are pleasant. But a couple of interior details hit the wrong note. The curves of the fabric ceiling panels try too hard to be soothing, embracing, womblike (and the fabric is likely soon to look grubby); and the neon signs for the outpatient departments and facilities strain too much to be "normal," to say too pertly, "smile!" and in fact give off a sickly light.

Hospitals are a building type whose functional requirements are so demanding that aesthetics are usually forgotten in the process, but that has not happened here. Furthermore, Dr. Smith is delighted with the results, and the hospital's recently appointed executive director, William Fuchs of the Hospital Corporation of America, finds that the building has enough built-in flexibility to accommodate the rapidly changing medical and computer technologies for quite some time. And now, the hospital waits to be judged by the users, the staff and the patients to be admitted when the building opens in the fall. *Susan Doubilet* 













The two hospital wings have highly articulated façades because of the demands of the pod-type hospital layout. Each wing has 24 private patient rooms per floor, each room very close to the circular nurses' station at the center (on the third floor, a special research unit has only 20 patient rooms). Originally, the hospital was to have two more floors, but these were eliminated (explaining the slightly awkward proportions) because of budget restraints. If the hospital does need

to expand in the future, provisions have been made to build a third tower, centrally located behind the existing two towers.







At the rear of the building is the rectilinear box housing the research departments (above and middle left), with the east-west spine piercing it. At this end, the stepped bluestone-and-glazed spine encloses a dramatic stairway connecting the research department's levels. Most important, the spine is continued at this point by a covered walkway (rather heavily proportioned) connecting the hospital to the medical center on the west, for the convenience of staff and students.

The north-south spine, also clad in bluestone, is continued at either end by carefully detailed glass-and-aluminum canopies: the outpatient entrance at the north end (middle left) and the radiation therapy entrance at the south (bottom left).

#### **Hospital Layouts**

There are basically three types of hospital floor layouts used today, say members of the Heery design team, and they are exemplified by three Heery-designed hospitals shown at right. The double-loaded corridor (middle), and the racetrack (bottom) are the most common, while the pod, exemplified by the Moffitt Cancer Center (top), has been used only in special instances. Heery designers explain each type as follows:

Double-loaded corridor type: This, the oldest plan type of the three, was developed before air conditioning was common, and it allows through-ventilation. The nurses' station can be located at the midpoint of the corridor, but to control the movement of visitors (a matter of growing importance these days), it is usually located at one end of the corridor, or, as in the example at right, at the intersection of two or more corridors, in triangular, T, or L configurations. Support rooms (treatment rooms, lockers, offices, soiled and clean linen, pharmacy stations, assisted toilet and shower rooms) are located adjacent to the nurses' station. The advantages of this plan type include the economy of its envelope and its adaptability to any required relationship between number of beds and size of nurses' station. The disadvantages include the remoteness of some of the patient rooms from the nurses' station.

The racetrack type: This type was developed when the widespread use of air conditioning eliminated the need for through ventilation, and it became the predominant type of the 1960s and 1970s. The nurses' station and the support rooms form the central core of the plan, with bedrooms located around the perimeter. Like the double-loaded corridor type, this plan has the advantage of allowing a simple, economical envelope, and the disadvantage of a loss of visibility between nurses' station and patient rooms. Further disadvantages include the proximity of noisy support rooms to patient doors, the limitations the layout imposes on the practical number of beds to be located around what can become a very heavy core, and its unsuitability for narrow sites. Due to these drawbacks, hospital designers in the 1980s have begun again to look favorably upon the double-loaded corridor type.

The pod type: This plan type clusters patient rooms closely around the nurses' station. It allows direct visibility between the nurses' station and almost all of the patient rooms, and interior windows (with curtains) can be located in the wall separating bedrooms and central area. Patient rooms are located in three of the four quadrants around the nurses' station, while support rooms occur in the fourth quadrant. This plan type permits not only close physical observation, but also a sense of psychological support. The central area around the nurses' station can become a social mingling space for the patients, successful if, as in the Moffitt Center, carpeting and high ceilings are used to minimize noise. The main disadvantage of this plan type is its high cost, the result of a number of requirements: It demands a highly articulated exterior wall to give each room a window with a view that does not compromise patient privacy; and it allows a limited number of patient rooms per nurses' station (24 at the Moffitt Center) if the central open core is not to become too large. Because of its expense, this plan is used only when a high degree of patient care is needed. On the other hand, says one Heery architect, the growing need to make hospitals "marketable" is drawing administrators to consider this type, even for more ordinary hospitals where the "non-hospital" look of the articulated exterior and the evidence of close nursing attention are attractive.









Numerous devices are used on the interior to create a warm, reassuring, and "normal" environment. The main entrance lobby, viewed looking inward towards the east-west spine (above) and towards the entrance doorway (left), is high, bright, and plant-filled, and has embracing curvilinear forms. The corridor spines (background above) also have curvilinear forms—fabric panels used to create the impression of a vaulted ceiling—while the outpatient waiting room has curving glass block walls (facing page, top). In the outpatient wing (as in the cafeteria, not shown), neon signs are used in an attempt to create a cheery feeling.

On the hospital floors, patient rooms (facing page, bottom) are clustered closely around the central nurses' station (facing page, middle) so that the patients will not have a feeling of being abandoned. Many rooms can be directly observed from the nurses' station, through interior windows. The area around the central station is generous, so that patients can mingle there if they wish.







**Project:** H. Lee Moffitt Cancer Center and Research Institute, Tampa, Fla.

Architects: Bentler & Heery, a joint venture. Stuart L. Bentler, Tampa; Heery Architects and Engineers, Atlanta.

*Client:* State of Florida, Board of Regents.

**Site:** east of the school of medicine on the campus of the University of South Florida.

**Program:** an expandable 162-bed, 340,000-sq-ft specialty hospital, incorporating a 20,000-sq-ft research component and a 100,000-sqft specialized diagnostic and treatment center to serve inpatients and 50,000 outpatients per year. Separate 4600-sq-ft mechanical equipment building.

Structural system: concrete frame, mat foundation, grade beams.

Major materials: exterior walls: Cast stone veneer on structural steel studs; bluestone on C.M.U. backup; granite; curtainwall; interior walls: gypsum board; cast stone; bluestone on metal studs (see Building Materials, p. 114).

Mechanical system: heating: gasfired boilers/heating water/constant volume AHU's; air conditioning: centrifugal chillers/chilled water/ constant volume AHU's. **Consultants:** Heery Architects and Engineers, Inc., structural, mechanical, and landscape; Heery Interiors, Inc., interiors; Robert Douglass Associates, programming and movable medical equipment; Coopers & Lybrand, financial; Joseph Camacho Associates, dietary.

General contractor: Metric Constructors, Inc.

**Costs:** \$32.7 million est. (\$95 per sq ft) not including movable medical equipment or fees. **Photos:** Tim Hursley.

## **Beaux-Arts Burnished**

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SESS DECEMBER

T. A. Sale

A BUILDING O CELEBRATE

After decades of bureaucratic vandalism, the New York Public Library, one of America's most elegant Beaux-Arts landmarks, is being restored by a team of designers and consultants led by architects Davis Brody & Associates. THROUGHOUT the 75 years since its completion, the New York Public Library has never looked less than noble. Standing at the very center of Manhattan, where 42nd Street crosses Fifth Avenue, the structure by architects Carrère & Hastings fills its two-block-long avenue frontage with Beaux-Arts composition of virtual perfection. Inside, a brilliantly conceived and detailed sequence of lobbies and stairs leads visitors inward and upward to major (on-axis) destinations and laterally to specialized departments.

By 1981, however, when Vartan Gregorian became president of the library, all was not well behind its dirty but otherwise undamaged façade. Generations of dedicated but architecturally insensitive occupants had turned some of the library's most splendid rooms into rabbit warrens of administrative cubbyholes. By then some major functions had been moved out—notably the circulating library to a building across the avenue—but no effort had yet been made to undo the effects of earlier crowding. In the city's fiscal crisis of the 1970s, the library (a private institution, with city funding for operating expenses) had become preoccupied with mere survival.

Gregorian and the board of trustees, headed by Andrew Heiskell stressed instead the glorious quality of both collections and buildings, and they have succeeded in making this library one of the favored charities of New York's elite and a magnet for donations. One by one, the best of this building's rooms have been restored in the names of various donors, while comparable infusions have begun to upgrade the system's 87 subcenters and branches that are administered from here.

The involvement of architects Davis Brody & Associates began with a chance encounter on the street between Gregorian and Lewis Davis, who had been acquainted years before at the University of Pennsylvania. Gregorian had begun making renovations and welcomed Davis's advice; the eventual result was a master planning commission for the Davis Brody firm.

Predating this commission was the 1983 renovation of the Periodicals Room, carried out under noted preservation architect Giorgio Cavaglieri, which involved not only restoration but installation of murals by Richard Haas. None of the subsequent work has included new commissioned art, and restoration, with the advice of the Columbia University Center for Preservation Research, has involved a minimum of refinishing.

The first of the rooms restored under the Davis Brody plan was the Public Exhibition Gallery, now Gottesman Exhibition Hall, on the first floor just behind the main lobby, now Astor Hall. The reclamation of this room from the bureaucratic maze that once ravaged it (page 92) was a joint effort of Cavaglieri and Davis Brody, and won them a 1986 AIA Honor Award.

Beside restoration of public rooms, the master plan for the library addressed several interlocking objectives: relocating administrative functions that had occupied former public rooms; providing, as needed, for new technologies, such as computer cataloging; and introducing effective up-to-date lighting and air conditioning.

To free some of the major spaces from administrative "homesteaders," new office spaces were developed, mainly in ground-floor rooms previously used for poorly organized offices or storage. These office areas are densely planned, but neatly laid out with well-equipped open office systems.

New mechanical systems were a challenge in several respects: they had to be installed room-byroom without disturbing other spaces; they come in two types—24-hour, close-tolerance systems for rooms housing valuable holdings, and less demanding systems for user comfort in public spaces during hours of operation—and their outlets and returns cannot disturb the integrity of the architecture. Integrating systems into rooms was facilitated by the generously proportioned hot-air heating system of the original design, which in some spaces provided handsome original grilles.

Lighting of the new spaces generally combines refurbished original chandeliers and torchères some in place, some found buried in storerooms, some re-created from drawings and period photos—along with general illumination provided by high-intensity lighting directed upward from the tops of cornices and cabinetwork.

After completion of the Gottesman Exhibition Hall, the main lobby, Astor Hall (p. 91), could be returned to its original uncluttered volume. Aside from these two first-floor rooms, the monumental spaces of the library are concentrated on the third floor, following a scheme that places the tall, daylighted catalog and reading rooms at the top level, the latter above numerous tiers of book stacks. (This concept was part of the program for the competition won by Carrère & Hastings in 1897.) From Astor Hall, visitors pass through the mezzaninelike second floor. From there they ascend to the thirdfloor circulation hub now named the McGraw Rotunda, restoration of which was completed this spring, along with the Salomon Room for exhibition and rare books (p. 94) and the lofty Catalog Room (p. 95). Beyond the catalogs, the vast Main Reading Room-297' x 78' x 51' high, divided down the middle by a low service core with call desks-awaits restoration.

Also just completed is the remodeling of the terrace that stretches along Fifth Avenue, in front of the library (this page and overleaf). Actually a heavily used half acre of public space, the terrace is the one portion of the complex to be deliberately redesigned by the architects, with Hanna/Olin, Landscape Architects. To make the superb façade more visible—and the open space safer and more appealing—massed planting against the building was removed and a double row of lacy Japanese locust planted to form an allée near the avenue edge of the platform. Seating provided by the extensive stairs—typically jammed on sunny lunch hours—will be supplemented by terrace chairs.

The next space to be restored—on which work is just beginning—is the space known prosaically as Room 80, originally the building's circulating library, located on the ground floor just inside its own entry from busy 42nd Street. Once circulating functions left the building, it was relegated to storage use. An exceptional element of this otherwise masonry-bearing-wall building (steel was used elsewhere in spanning trusses), this metal-and-glass pavilion sits in the building's northerly light court. When it is reopened as a reception and lecture room, its exposed steel and cast-iron framing and its colorful marble wall cladding promise an architectural revelation.

Among the next areas to be worked on is the 42nd Street lobby, adjoining this room. A ramp bypassing the few steps up to this entrance will provide convenient access for the handicapped, who now must enter through a service entrance.

With its handsome public façade, its broad front terrace, and most of its imposing public interiors restored, the New York Public Library will be proudly poised to receive the substantial additional funds needed to refurbish its great Reading Room, along with other spaces where Carrère & Hastings fine original details can be found behind grime and other accretions.

John Morris Dixon and David Morton

Fifth Avenue entry of New York Public Library has new lights Davis, Brody created from old Carriere & Hastings dravings













The Gottesman Exhibition Hall (left) has been returned to its original use (seen in period photo middle left) after serving as staff offices for over 40 years (middle right). In the huge (83' x 77' x 18') room of Vermont marble, replicas of Carrère and Hastings' original bronze and leaded glass chandeliers hang from one of the most beautiful carved wood ceilings in the country, executed in oak by Maurice Grieve. Flanking the central axis, large piers are completed with pilasters facing the axis, but mirrored by columns on other sides. The marble was especially quarried so that the graining of the column shafts would be vertical in contrast to the horizontal graining of the rest of the room.

In the McGraw Rotunda (bottom and opposite) that leads to the major public spaces on the third floor, walnut paneling is heightened by paired Corinthian pilasters that separate the bays. Murals in the rotunda were executed as a WPA project in the late 1930s. The magnificent marble lamp standards flanking the murals are the same as those in Astor Hall, some of which had been hidden in storage for years. Above the Hautville and Gray Siena marble floor, a paneled barrel vaulted ceiling of stucco is terminated at both ends by glazed open bays that bring daylight in from the north and south courtyards. Now the restored ceiling, much of which had been covered with brown paint, can be seen in all its glory.



















The Salomon Room (far left) has been returned to its original use for exhibition and special collections (period photo, immediate left) after use for years for photographic services (below period photo). Room 80, not yet restored (middle band of photos) was originally the circulating library (far left, middle band). It will be adapted (with unobtrusive shading devices) as a lecture and exhibition space.

The Public Catalog Room (bottom left and right, and facing page as seen from the entry of the Main Reading Room) has been completely computerized. The new service counter was made from parts of the old one with new additions (bottom right). Walls in the 60-foot-high room are of stucco treated to resemble limestone.

**Recommended reading:** *The New York Public Library* by Henry Hope Reed. W.W. Norton Co., \$35.00 cloth, \$16.95 paper.

Project: New York Public Library. Architects: Davis, Brody & Associates, New York, with Giorgio Cavaglieri for the Gottesman Gallery (Norman Dorf, project manager; John Torborg, Elin Avery, Madeline Lynch, John McCoy, Ellen Albert, Michael Lavoie, Ann Falutico [with Giorgio Cavaglieri], Joanna Florence, design team).

Original architects: Carrère and Hastings (1897–1911). Client: New York Public Library. Site: two blocks on Fifth Ave. Program: restoration of several major public spaces and the 25,000sq-ft Fifth Avenue Terrace of the main building of the 1911 New York Public Library, including the 6400sq-ft Gottesman Exhibition Hall, the 7000-sq-ft Salomon (Rare Books) Room, the 5800-sq-ft Public Catalog Room, the 2200-sq-ft McGraw Rotunda, and the 8200-sq-ft Astor (main entry) Hall.

Major materials: plaster; wood doors, panels, flooring; bronze window frames, doors, lighting, and hardware; quarry tile, marble floors; ornamental plaster and carved oak ceiling, all restored or matched. Mechanical system: some new unit air handlers.

Consultants: Jules Fisher & Paul Marantz, Inc., lighting; John Altieri, mechanical/electrical; Hanna/ Olin & Associates, landscape; Columbia University Center for Preservation Research, restoration; James Wiesenfeld & Associates, structural. Contractors: A.J. Contractors, integral construction; Fine Arts, Inc., restoration contractor.

**Costs:** \$9 million for building and furnishings in 1911; \$14,250,000 for restoration, excluding the Fifth Avenue Terrace.

**Photos:** ©Peter Aaron/ESTO unless otherwise noted.



# P/A Technics Work Lights

Office work presents some of the most difficult seeing tasks. The ease with which those tasks are performed depends, to a large extent, upon the type of lamps, controls, and fixtures used in the office. IF, as you read this issue, veiling reflections obscure some of the type on its glossy pages, then you have a lighting problem. It may not be much of a problem with magazines, which can be tilted one way or the other to eliminate the reflections. But with the more difficult seeing tasks frequently encountered in offices, such as reading highly reflective computer screens, the quality of an office's lighting—its lamps, controls, and fixtures—becomes critical.

Manufacturers have begun to respond to the lighting needs of the increasingly automated office. Lamp companies have improved the energy efficiency, beam control, and color rendering of light sources, while making lamps more compact. Lighting control producers have improved the performance of ballasts, controllers, and sensors. And fixture manufacturers have improved the optics and reduced the dimensions of their products to minimize glare and simplify placement. While members of the lighting industry differ over how such innovations are best used, almost all would agree with Thomas Williams of General Electric that "the lighting business has never been more exciting. New technology is fundamentally changing the way we light."

#### **Turning on Lamps**

"The lamps," says Carl Benz of Progress Lighting, "are probably the most important part of a lighting system." Incandescent or tungsten halogen lamps, while used in the office mainly as task or accent light, produce what most people still consider the best light. With Kelvin temperatures around 3000 K and a color rendering index of almost 100 percent, their color and color rendering are excellent. Their drawbacks, at least until recently, have included a relatively short life, poor beam control, and inefficient light output.

The newer lamps have improved upon those limitations. Some incandescent sources now have twice the life expectancy they once had. Their optics, too, has greatly improved with the incorporation of reflectors. That in parabolic reflector (PAR) lamps prevents the spill of light out the back of the lamp, while that in elliptical reflector (ER) lamps focuses the beam in front of the lamp and thereby reduces the spill of light out its sides. Recently, reflectors in lamps have become even more sophisticated. MR-16 lamps, for instance, have a multifaceted, mirrored-glass, dichroic-coated reflector. The facets produce a brighter beam of light than other reflector lamps with the same wattage, while the dichroic coating produces a cooler beam by letting some of the heat given off by the 2-inch halogen lamp escape out its back.

Coatings on the inside of halogen lamps also have improved the energy efficiency of these light sources. Low-emissivity coatings, for example, allow visible light to escape the lamp, but reflect infrared energy back onto the filament. Less energy is thus required to achieve a given output of light.

Fluorescent lamps, too, have undergone major changes in their design and coating. One of their most important design changes has been a decrease in size. Straight fluorescent tubes, now available in one-inch diameters, have prompted the development of slimmer fixtures. Even more compact lamp shapes have been obtained by bending or joining the glass tubes and arranging them in single or double pairs. These compact fluorescent lamps can produce the same light output as standard 40-watt fluorescent tubes at one third to one half the size.

Another important change among fluorescent lamps has been the improvement of their efficiency and color rendering. Good color rendering and high efficiency used to be mutually exclusive properties, but with smaller, double-coated lamps, manufacturers can afford to coat the inside of the lamps with more expensive rare-earth triphosphors. Such triphosphor coatings can render colors more faithfully, with an efficiency equal to or better than standard fluorescent lamps, at an annual cost of only a few cents more per square foot. They also can produce a range of colors from 3000 Kelvin, which allows their use in conjunction with or as a replacement for incandescent sources, to over 5000 Kelvin.

Of the high intensity discharge lamps, metal halides have had the greatest use in offices, mainly in indirect lighting. High efficiency has been the major attraction of metal halide lamps, but the difficulty





OFFICE SECTION

The interiors of Cesar Pelli's American Express headquarters building in New York were designed by Swanke Hayden Connell (above, facing page). "A major issue in the design of its lighting," says Henry Kurz of Swanke's office, "was eliminating reflections in the thousands of CRTs in the building." The firm decided upon task/ambient lighting with ceiling mounted pendants. "We investigated furniture-mounted fixtures," says Kurz, "but we didn't want the lighting redesigned every time the furniture moved. It also would have been difficult to mount luminaires on the 38-inch-

high secretarial surrounds." Not happy with any of the indirect pendants on the market, Kurz and lighting designer Robert Friedman of Wheel-Gersztoff, designed a slim, rounded metal fixture, containing two, one-inchdiameter fluorescent lamps, that is light enough in weight to hang from the suspended ceiling grid. Spaced 10 feet on center, the fixtures provide about 45 to 50 footcandles of ambient light at the worksurface. Task lights at each desk supplement that illumination. "Ceiling-mounted pendants," says Kurz, "allowed us to move the ceiling up to a 9foot-6-inch height.







#### OFFICE SECTION

Walls as well as ceilings can serve in the reflection of ambient light. The offices of the **Canadian Development Cor**poration in Toronto, by architect Gordon Edwards and interior designers Rice-Brydone, exemplify that approach. Most permanent walls are washed with fluorescent or incandescent light from lamps recessed in wall slots. Private offices have at least two walls washed with light in that way. Over each desk hangs a custom-designed pendant fixture designed by Gordon Edwards and lighting designer William Lam. The pendant fixture consists of two two-foot-square fluores-

cent fixtures, back to back in a brass housing. "Having one fixture for every desk," says Lam, "reduces the number of fixtures and the amount of energy used." The luminaires each have stepped ballasts that maintain the lamps at half or full output. Large cell, parabolic louvers minimize the glare from the direct lighting component. While the **Canadian Development Cor**poration is unlike many offices in the number of fixed partitions that it has, the solution of wall washers combined with task/ambient pendant fixtures works in open offices.

of controlling their beam, their fair color rendering, and inconsistency of color from one lamp to another have been traditional drawbacks. Another problem has been their use in fixtures. "Metal halides," says Leonard Kent of Lam Lighting, "produce a doughnut of light. When they are turned on their sides in an indirect fixture, the lamps create hot spots on ceilings that many people have justifiably criticized." Yet, even when placed correctly on end in fixtures, "metal halides require very large reflectors," notes lighting designer Claude Engle, "to control the light adequately."

Some of the objections to metal halide sources may disappear with the recently introduced low wattage metal halide lamps, whose smaller size and lower brightness allow their application in direct lighting. Improvements in the color consistency of metal halides also may increase their use.

Still, few lighting designers show much interest in using these high intensity discharge lamps in offices. There the quality rather than the energy efficiency of a light source matters more-an equation that places HID lamps at a decided disadvantage. Yet, these lamps have their advocates; lighting designer Harry Zackrison has labeled the new metal halide and high-pressure sodium lamps as "the light sources of the next decade."

#### **Control Points**

Lighting controls, like lamps, have changed dramatically in recent years. One trend has been the development of inexpensive, microprocessor-based lighting controls. While such controls may find their greatest use in spaces such as conference rooms for the presetting of light levels for various presentations, these systems also have applications in the switching of lights in general office areas. "They can be set," says Randy Swiech of Smith, Hinchman & Grylls, "to make automatic transitions in light levels according to a preprogrammed schedule." Research conducted by Public Works Canada has shown that such preprogrammed controls can reduce electrical consumption in office buildings by 35 percent. It's essential, though, that these automatic controls have override switches for people who come in early or stay late.

Sensors too have become an increasingly accepted part of office lighting systems. A variety of sensors respond to the occupants in an office, signaling a controller to switch lights off after people have left a room for some specified period of time, and back on when a person enters. Passive infrared, ultrasound, and acoustical sensors are the three most common types.

Passive infrared sensors respond to changes in radiated body heat. These sensors, says Randal Swiech, "typically have time delays of about ten to twelve minutes and a coverage of around 200 square feet, although some wide coverage sensors are available." Since these sensors respond to heat, they should be pointed away from heat sources and located at least one foot away from fluorescent lights and two feet away from incandescent light fixtures. It's also important to point them away from hallways where passersby might trip the lights.

Ultrasound sensors activate the lighting system when they sense an interruption in their ultrasonic field. Typically mounted on ceilings, they usually have a broader coverage than passive infrared sensors. But, like the infrared type, ultrasound sensors should be pointed away from hallways, because the motion of passersby can trigger them, and away from supply and exhaust registers, because the movement of air can sometimes activate the system.

Acoustical sensors respond to sound within a room. An advantage they have over an infrared or ultrasound sensor is that they are not affected by obstructions in an office such as large pieces of furniture or blind corners. The reverberancy of a room, though, can affect their performance. So too can the size of a space-acoustical sensors do not work well in large open offices that are difficult to isolate acoustically.

The value of occupancy detectors in a space depends upon the type of occupancy. "They work best in spaces with intermittent occupancies," says Swiech, "such as enclosed offices, restrooms, and conference rooms." While some consultants find them acceptable in open offices, as long as each workstation has a separate sensor, others think that the turning on and off of lights in various parts of an open office distracts other people in the space. When used in the right kinds of spaces, however, occupancy sensors can reduce the energy consumption of lighting in an office by as much as 50 percent without altering the life of the lamps.

Given the right situation, photocell sensors also can significantly reduce energy consumption. Such sensors respond to light levels in a space, allowing a controller to dim or switch off perimeter lamps automatically as daylight levels increase. Photocell sensors make most sense-and are most easily justified in terms of their cost-in buildings that have been designed with daylighting in mind. Several lighting consultants report that they have not been able to justify the cost of photocells, particularly if each perimeter office must have its own sensor. But daylighting research has shown that, when controlling banks of fixtures along an entire side of a building, photocell sensors can pay for themselves in a reasonable period of time.

#### **Seeing Fixtures**

Unlike lamps and controls, which have taken a few major leaps in technology in recent years, lighting fixtures have developed in many smaller steps. One such development has been the design of fixtures to accommodate the new compact lamps. The MR-16 lamps, for example, have bred many track light fixtures of almost toylike proportions, while the compact fluorescents have generated several new lines of smaller troffers. Another development has been the revival of fixture types that had gone out of fashion, such as wall sconces and cove lights.

There's no question, though, that, of the recent developments, the most controversial and least resolved is the lighting of the open, automated office. It's not just the unpredictable location of desks in open offices that makes their lighting problematic, but the variety and difficulty of the seeing tasks performed there, of which the reading of a computer screen or CRT remains one of the hardest.

That seeing task is made even harder when the office lighting creates veiling reflections in the screen. One way of eliminating such reflections involves a combination of direct and indirect illumination in what is known as task/ambient lighting. The indirect component illuminates the office ceiling, producing an ambient light somewhere in the 10 to 30 footcandle range, while the direct lighting illuminates the work surface with at least 50 footcandles. "Indirect lighting," says Leonard Kent of Lam Lighting, "uses fewer watts, but produces a more uniform light, without glare or shadows." It also reduces the clutter of fixtures in a ceiling (although it places some constraints on the ceiling itself, such as requiring a nonspecular ceiling with a minimum reflective value of 75 percent, according to Paul Kessler of Haworth). Indirect lighting, particularly when pendant fixtures are used, allows greater flexibility in the arrangement of desks. And it can reduce an office's energy consumption, not only because it often uses more efficient HID lamps, but "because indirect lighting achieves the same seeability with 25 percent fewer footcandles," says James Rhiner of Halo Lighting. The proponents of indirect lighting further argue that it enhances a space by illuminating the entire volume. "The room itself," says lighting designer William Lam, "becomes the fixture."

Indirect lighting has its drawbacks. Not every office has enough height to accommodate it since there should be at least three feet between the fixture and the ceiling. Nor does everyone like the effect of indirect lighting: "It's like working under an overcast sky," says Gene Stival of Howard Brandston Lighting Design. "It can be oppressive unless the room has a lot of direct lighting to give it some sparkle." Showing some of the indirect light source also can give an office some "sparkle" as well as create "anywhere from 10 to 22 percent more perceived visibility," says Marshall Dunbar of Peerless Lighting. But a visible light source, Dunbar admits, also means that it may reflect in a computer screen.

Some lighting designers even argue that indirect lighting, whether the source is visible or not, can create glare in CRTs. "A level of indirect illumination that is low enough not to reflect in a CRT provides insufficient light for other tasks," says Claude Engle. "If you increase the level of illumination to provide an even 50 footcan-





When Georgia-Pacific moved its headquarters from Portland to Atlanta, it requested of its architects, Skidmore, **Owings & Merrill, a modular** lighting system like that in their previous building. "The question then became: how do you place a fluorescent tube within a square module," says lighting designer Claude **Engle.** The solution involved bisecting the five-foot-square perforated acoustical coffers with linear fixtures containing two four-foot-long fluorescent lamps, one located above the other. "The uplight provides about 30 footcandles of ambient illumination," says Engle. "The lower lamp pro-

vides another 35 footcandles of light on the worksurface." While the fixture has a large cell, low brightness louver to reduce glare, "the two lamps are switched separately," says Engle, "so that in an area with many CRTs, they can turn off the bottom lamps." The modules around the building's perimeter and core have no fixture to take advantage of daylight or spill light from adjacent modules. That, plus the efficient use of lamps, allows the lighting system to run at about 1.36 watts per square foot, says SOM, with the ambient system requiring only .8 watt per square foot.

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