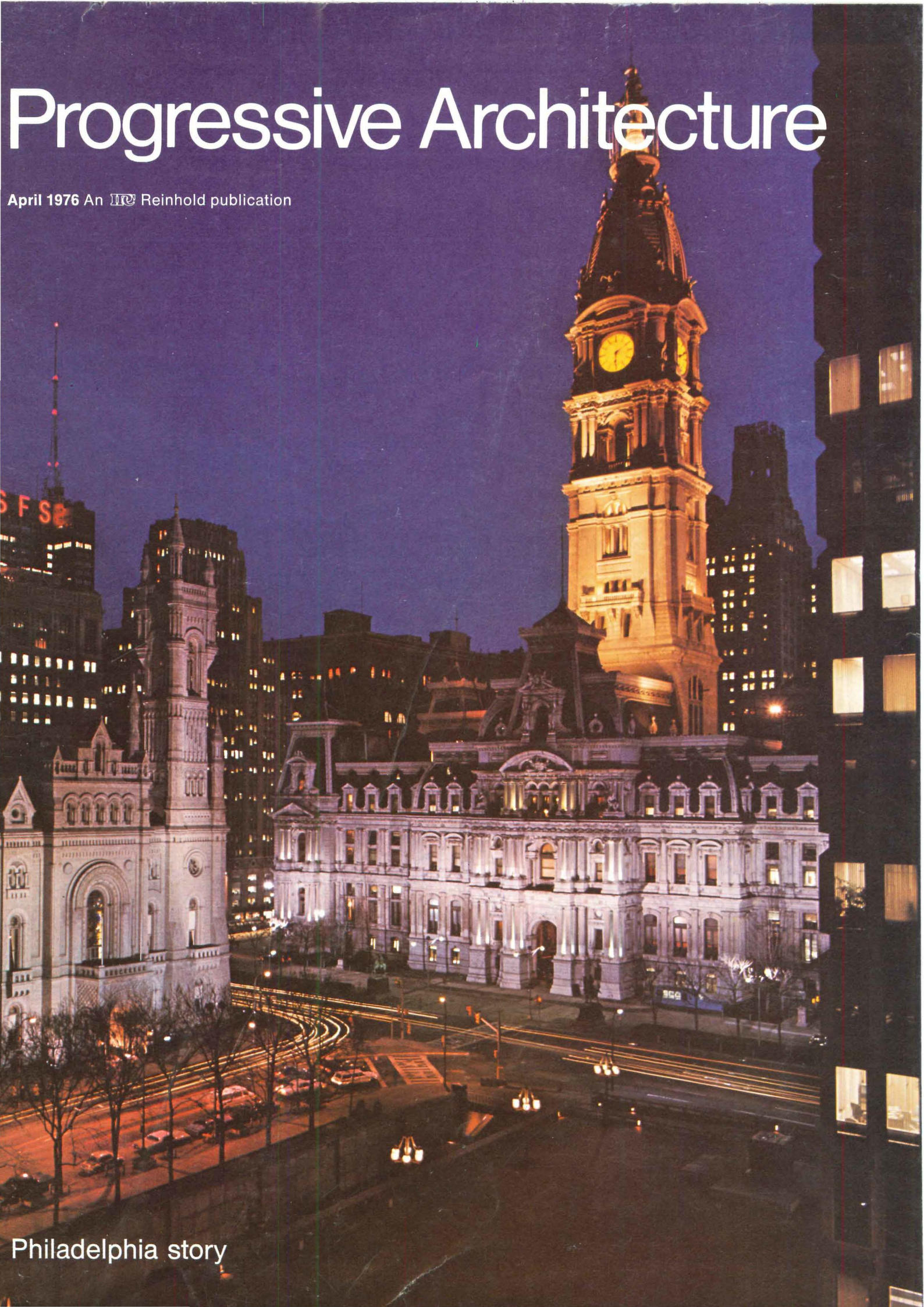


Progressive Architecture

April 1976 An  Reinhold publication



Philadelphia story

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46 Twenty-five years (almost) after the Chinese Wall

Effects of Philadelphia's downtown planning and renewal efforts are more visible than those elsewhere, but not without their weak points.

52 From sodhouses to PSFS

Architecture in Philadelphia from the 1680s to the 1950s is one of America's richest urban achievements. A survey by Walter Kidney.

58 Philadelphia's phantom school

Is there a Philadelphia School like the Chicago School or is P/A's prophecy unfulfilled? Robert Coombs writes about the school's disciples.

64 Philadelphia '76

After years of planning, designing, and fantasizing, examples of Bicentennial architecture are beginning to appear. Included are:

65 Liberty Bell Pavilion. Architects: Mitchell/Giurgola.

66 Visitor's Center. Architects: Cambridge Seven.

67 Living History Center. Architects: Mitchell/Giurgola.

68 The Graff House. Architects: Harbeson Hough Livingston & Larson.

69 Franklin Court. Architects: Venturi & Rauch.

70 Mummer's Museum. Architects: Ueland & Junker.

72 Of transitions

Mitchell/Giurgola's new Penn Mutual office tower forms a symmetrical background for Independence Hall and reconciles differing street scales.

76 New crystal palace

Louis Sauer Associates' modern "Glass Palace" at NewMarket in Society Hill contrasts excitingly with its historical fabric.

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Architects may need a refresher course, with the seemingly endless number of choices presented to them by door manufacturers.

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Cover: "If this is Tuesday, it must be Philadelphia"—
Masonic Temple, PSFS, and City Hall at Dusk. Photo: Harris/Davis.



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Philadelphia perceived

April 1976

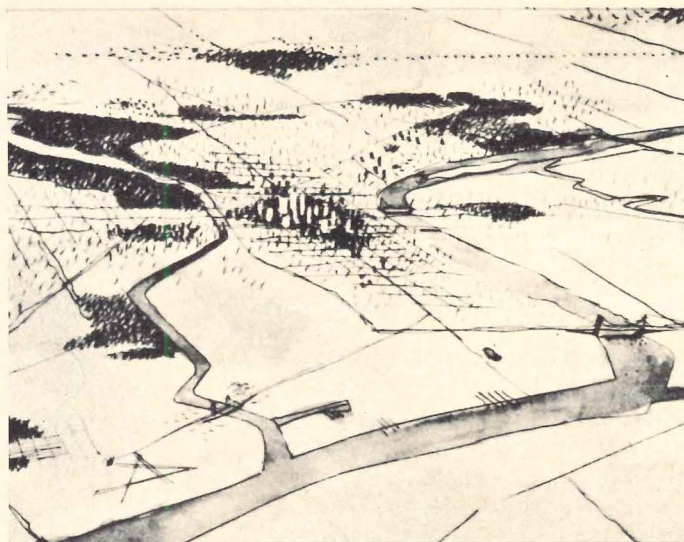
Tourists in unprecedented numbers will visit Philadelphia this year, for sentimental reasons that are all too easily dismissed. Most of them, we might as well admit, will see no more there than a series of shrines embedded in a hostile, bewildering urban setting. To the average American, "city" means traffic congestion, alien-looking throngs, muggings, porn shops, and air-borne grit, and their pilgrimages to Philadelphia will make few converts.

Architectural professionals, too, will converge on Philadelphia in unprecedented numbers. For reasons no less subjective, virtually every architecture-related national organization is meeting there this year: the American Institute of Architects (May 2-5), the Society of Architectural Historians (May 19-24), the Construction Specifications Institute (June 21-23), and the National Trust for Historic Preservation (Oct. 29-31).

For these professionals, the city of Philadelphia is bound to be a more rewarding experience. Philadelphia represents, in some respects better than any other U.S. city, our hopes and fears for the urban environment. Center-city Philadelphia is altogether the most consciously planned of any American city core (discounting the plan of Washington, which denies the possibility of a real urban core). Nowhere in the U.S. is a sequence of key Western planning ideas—from colonists' grid to City Beautiful to Townscape—so clearly exhibited in the city fabric.

Under planning director Edmund Bacon (see p. 46) the Philadelphia core has been a laboratory of mid-20th-Century planning techniques and the cornerstone for Bacon's writings on urban design. For architect Richard Wurman and his partners, it has been the subject of some influential studies and publications on public comprehension of urban form. To cover lapses in official planning, Philadelphia has generated and sustained the most productive of all U.S. community design centers, The Architects' Workshop, directed by Gus Baxter.

In terms of architecture, the strongest characteristic of Philadelphia has been its self-sufficiency. With the conspicuous exception of the Society Hill apartment towers and some surrounding townhouses by I.M. Pei & Partners, the noticeable architecture in Philadelphia is the work of Philadelphia firms. There is not a single office



Drawing of city in region by Aldo Giurgola from *Philadelphia Architecture* (guide for last AIA Convention there)

tower by SOM or Edward D. Stone, and even Frank Lloyd Wright's local landmark, the Beth Shalom Synagogue, is outside the city limits. This self-sufficiency is no mere provincialism: The impact of Philadelphia architects on the rest of the country has been strong ever since Latrobe was called upon to salvage the first scheme for the U.S. Capitol.

In the years since 1960, Philadelphia's home-grown architects have exerted powerful influence worldwide—the late Louis Kahn by his example and his writings, Robert Venturi mainly through his writing and teaching (efforts shared in recent years with his wife, planner Denise Scott Brown, and their associates). Whether or not these architects and others were members of a "Philadelphia School" can be debated (p. 58), but their connection to the Graduate School of Fine Arts at the University of Pennsylvania has been of crucial importance. Nobody did more to make Philadelphia a source of architectural ideas for the world than G. Holmes Perkins, dean of that school from 1952 to 1970, who assembled a faculty that included, besides Kahn and Venturi, Thomas Vreeland, Robert Geddes, Romaldo Giurgola, David Crane (who subsequently headed architecture schools or departments at UCLA, Princeton, Columbia, and Rice, respectively), Denise Scott Brown, David Wallace, and Ian McHarg.

Within the confines of a single issue of P/A, we have concentrated on the core of Philadelphia. You will find little here about its architectural school, its outlying neighborhoods, or its suburbs. We do not take up here the ecology of the surrounding Delaware River Valley, a subject of pioneering studies by the city's well-known landscape-planning-architecture firm, WMRT, and warnings by environmentalist/architect Malcolm Wells of Cherry Hill, N.J., in the city's eastern suburbs (P/A June 1974, p. 59). Nor do we speculate here on the economic fate of Philadelphia as a northeastern city.

We're partial to great urban design and architecture, and we hope that the architectural treasures of Philadelphia are recognized—not just by AIA, CSI, and SAH members, but by the public that must sustain them. If so, Philadelphia can be as exciting in 2076 as it is today for people who have eyes for architecture.

John Morris Diefen



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Letters from readers

Views

Awards recognition

The jury for the 1976 P/A Awards Program should be commended for the more international current expressed in its selection of projects by "younger" architects. Both the illustrated concepts and the jurors' comments are serious and provocative.

Richard Meier

*Richard Meier & Associates Architects
New York, N.Y.*

I want to convey my enthusiasm for the results of this year's awards program. I expect P/A each year to make awards to proposals which are either iconoclastic in refuting current architectural values, or are exemplary in their high and current professionalism. This year's crop includes both categories, with Emilio Ambasz's Stairway to Heaven taking first place amongst the image breakers and makers. His overt concern, and that of other winners, with the purely iconographic aspects of design must indeed be sending a moral shock wave through the profession. But this priority given to the meaning of image and form is undoubtedly rapidly becoming the primary concern of the late 1970s architect, and P/A has served us all well with the jury's selection of this set of awards. May they all be built!

William J. Conklin

*Conklin & Rossant Architects
New York, N.Y.*

I have given a great deal of thought about the P/A 23rd Awards. My conclusion, expressed as eloquently as warranted by the awards: Garbage.

This jury must have had alliances with *Architectural Record*, as the direction indicated by the awards was regressive rather than progressive. After looking at the Emilio Ambasz award in disgust, it was really quite hard for me and my colleagues to take the rest seriously.

Darrell W. Comeaux

*Richard Fitzgerald & Associates Architects AIA
Houston, Tex.*

This January's design awards issue really did reach the bottom of the barrel. No wonder we architects cannot put together a united front. No wonder we are losing even more control over the building environment. Any layman or member of the allied professions would probably

wonder what in hell we are doing, professionally, after perusing this issue.

The courthouse ramp project is a prime example. The jury thinks it is delightful, beautiful and the drawings are incredibly seductive as well as gorgeous. However, the jury also admits that there is only one idea, that the circulation is not that well worked out, that vehicular circulation is not good, that the details of the concept which are shown are unconvincing at the scale used. Am I dreaming?

You know, what really scares me is that at a time when much hard-nosed soul-searching by architects should be the case, we are shown a "cream of the crop" series of designs, many of which appear to be very frivolous and unstudied. I don't think it's wrong to continue what have become some of the classic ideals of modern architecture such as excitement, fascination, and drama, but sensitivity and responsibility should be included as well.

I feel that, collectively, this year's batch of winning designs are losers in many respects. I would further request that P/A consider suspension of the design awards program until we architects can recover from whatever disease it is that we have contracted. Remember the saying "If you are not part of the solution then you must be part of the problem."

*Steven Blum, Architect
Groveport, Ohio*

This year's architectural design awards present a commendable profile of the profession's excursion into the rococo. Although the projects make allusions to many sources, their emphasis on fantasy, movement, manipulation of scale, applied decoration, and obscure symbolism comes closest in spirit to the 18th century work of Balthasar Neumann.

This analogy, however, casts some doubt on recent theories that stress the innovative content of this new work. Like the late Baroque, these projects seem less interested in ideas than in the recapitulation of details and the refinement of techniques. This begins to explain why the jury, impressed with the skill and competence of the submissions, could find few, if any, new approaches.

Fortunately, history shows that such periods of technique precede periods of new formulation and discovery. This year's design awards may well be remembered as an ending rather than a beginning, a statement on the decline of an aesthetic that has become so abstract and isolated that it can no longer respond in a meaningful way to the demands of society or the profession.

Tom Fisher

Gates Mills, Ohio

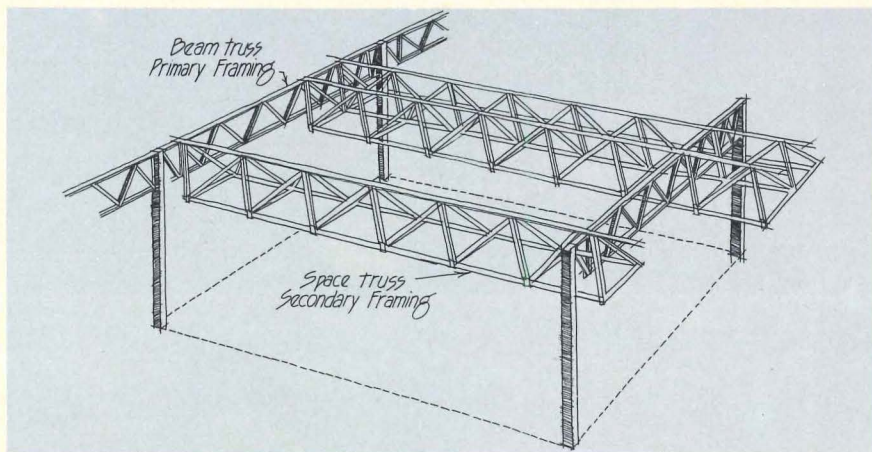
Recognition for Bed-Stuy

A. C. Moore's very successful project for Bedford Stuyvesant Restoration is certainly deserving of the recognition you gave it in your lead news story (P/A, Jan. 1976, p. 23). As with all work of this type, the constraints and complexities of sites, existing buildings, and budget made demands not only on the architect, but also on his consultants above and beyond the normal level of professional and personal involvement.

In noting particularly the work involved in the skillful and delicate handling of the existing structures and especially the braced tenement [continued on page 12]

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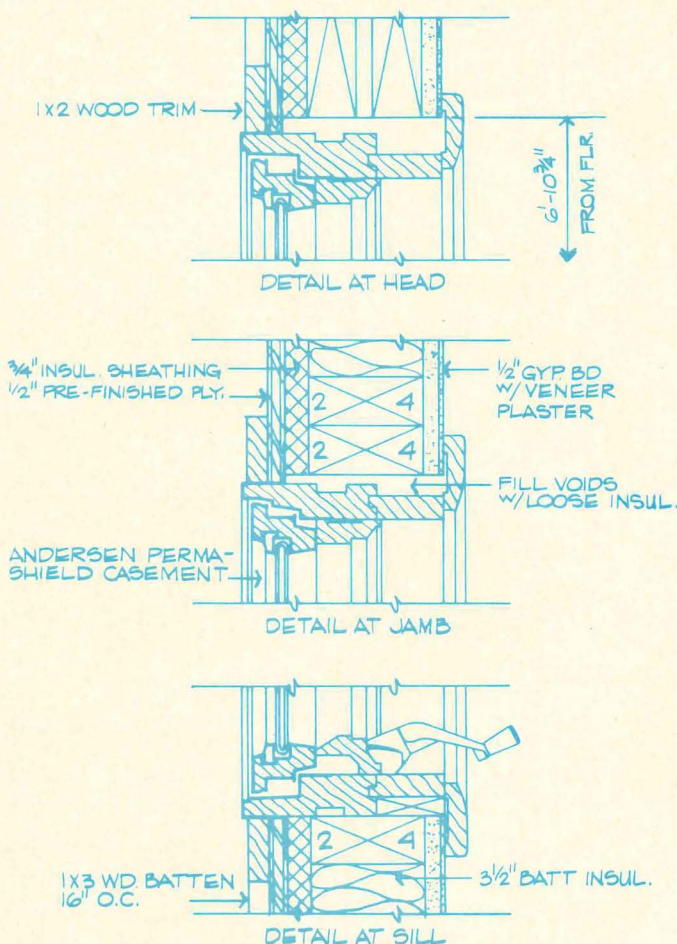
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façade which serves as entrance and symbol of the project, I feel that mention should be made of the contribution of LeRoy Callender, a young talented black structural engineer with an office in New York and ties to the community. Mr. Callender, through his efforts and involvement as a structural consultant, can feel justifiably proud for his share in the successful fulfillment of this design.

*William I. Clark, R.A.
Patterson, N.Y.*

More on Pembroke

I've read with interest about the ongoing conceptual confrontation between the exclusivists and the inclusivists in modern architecture in these and other pages. A lot of bull has been very evenly distributed but in the end it's very plain to my eyes who's got that certain *something* and who wishes it were not so.

As an artist, I don't think architecture need be come walk-in sculpture to be great, but MLTW has demonstrated time and again that consistent leap of the imagination that transforms building into art. Even the cover of the February P/A itself can double for photo realist painting.

The Pembroke Dormitories have the perfect combination of balls, brashness, and blarney to drive other architects up the wall, if not to their respective drawing boards.

*Paul Zenian
Art Department
Washtenaw Community College
Ann Arbor, Mich.*

I would refer William H. Jordy to my piece in the Feb. 1964 issue of the *AIA Journal*, "Four Short Stories—Architecture, Planning and the English Language." The architectural gobbledygook in Mr. Jordy's frenzied rationalization of the Pembroke Dormitories at Brown University defies the imagination. More appropriate to call it verbal diarrhea. As if "a predilection for the complexity of mass, silhouette, and level in Mediterranean towns" has anything to do with the rigors and debilitating effects of New England winters.

As for MLTW/Moore, Lyndon, Turnbull, they obviously missed my earlier (Sept. 1959) piece in the *Journal*, "Day of the Stunt." A more blatant stunt remains to be seen. Charles Moore should thank his lucky stars he escaped any participation in the final design.

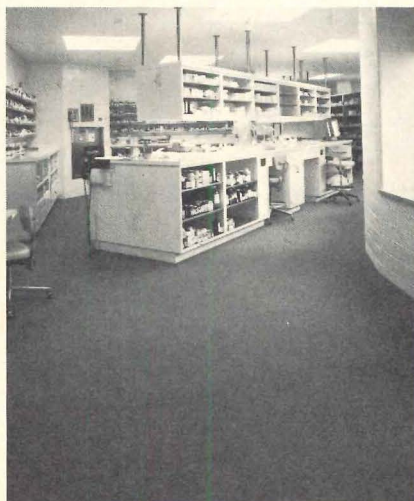
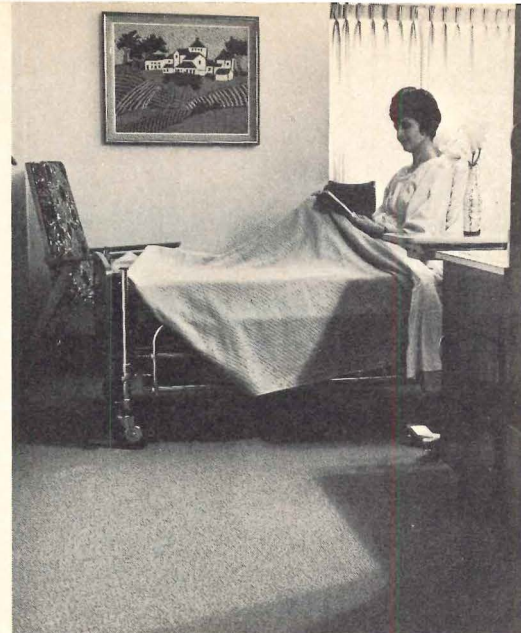
*William Lyman, AIA
Birmingham, Mich.*

The "Hindu temple" at Sanchi whose gate is recalled at MLTW's excellent Pembroke Dormitories (photo caption, Feb. P/A, p. 51) is neither Hindu nor, strictly speaking, a temple. The Great Stupa at Sanchi, its surrounding railing and four gateways compose a Buddhist monument erected under the patronage of Andhra kings and datable to the first century, A.D. The phenomenon of Hinduism as we know it today, as distinct from Vedism, did not come into being until the 9th century with the teachings of Sankara.

*David Gustafson, Architect
Minneapolis, Minn.*

Correct credit

Reference to the fire station in New Haven by Venturi in Feb. P/A, p. 52 should have read Venturi & Rauch.



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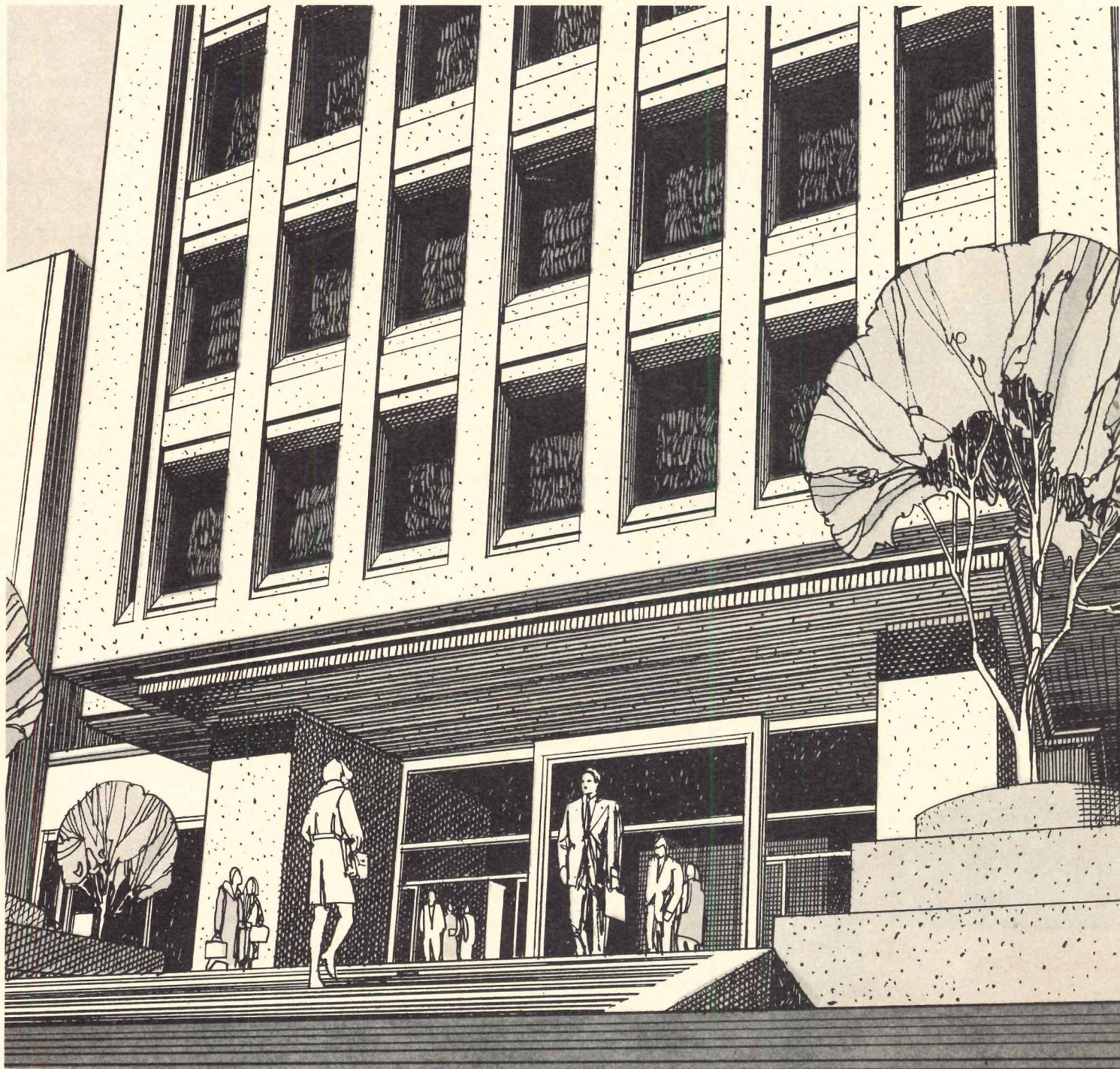
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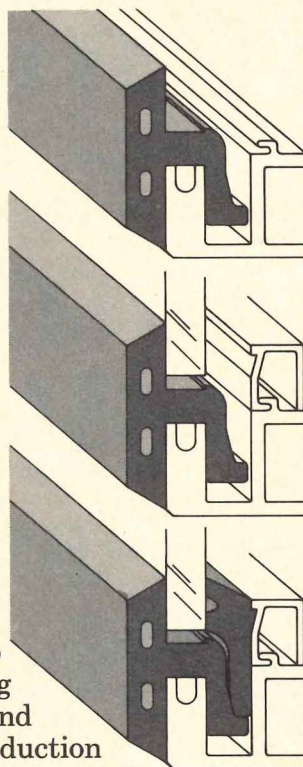
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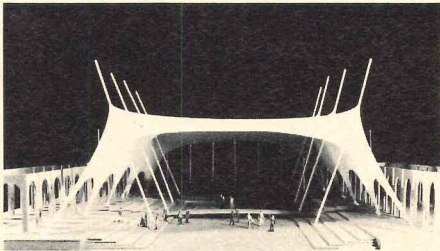
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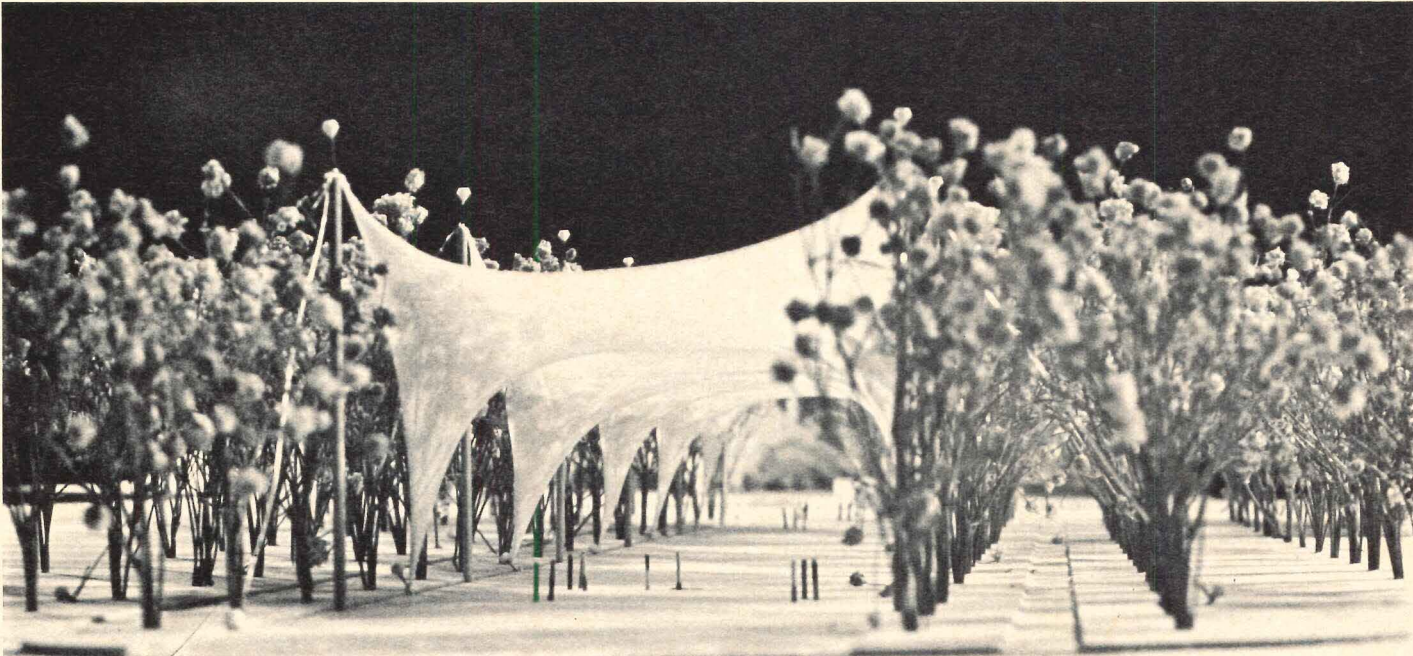
News report



Parkway Theater at Philadelphia Museum of Art.



Independence Mall Amphitheater.



Pennsylvania Folklife Festival Pavilion at Eakins Oval. All tent structures by H₂L₂ of Philadelphia.

Firecracker of a convention for AIA

The 1976 American Institute of Architects national convention, which will be held May 2-5 in Philadelphia, Pa., promises to be memorable—if not for the next 200 years, at least for a few years to come. Decentralizing the action, the planning committee has arranged for the whole city of Philadelphia to participate.

“Citylights” will be one of the major events. On May 5 from 10:30 p.m. to 10:45 p.m., all the buildings in downtown Philadelphia will be lit for a coordinated program of photographing the city center from building tops and from a helicopter.

The roofs of tall buildings also will be

used May 2-5 as a learning laboratory from which conferees may view the city. Richard Saul Wurman of Philadelphia, chairman of the convention, commented that this special vantage point is seldom used to learn about the city, since the uppermost floors usually become cocktail lounges or offices.

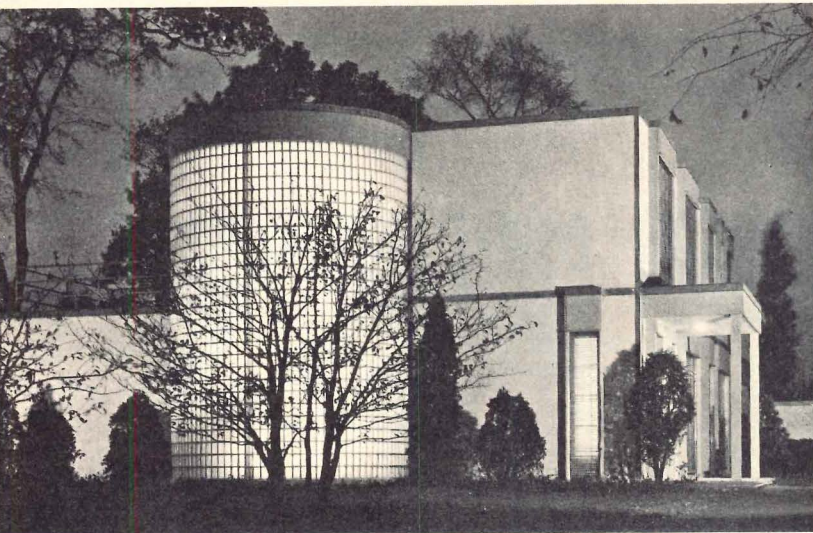
Wurman has seen to it that practically the whole city is aware of architects the week of May 2-5. Movie houses along Chestnut St. will screen films on city life from 8:30 a.m. to 11:30 a.m. May 3-5. Wanamaker's, the city's largest department store, has given all its windows for the display of architectural themes. And television station WCAU, on May 2, will broadcast “Signature Against the Sky,” a documentary on Louis Kahn.

[continued on page 38]

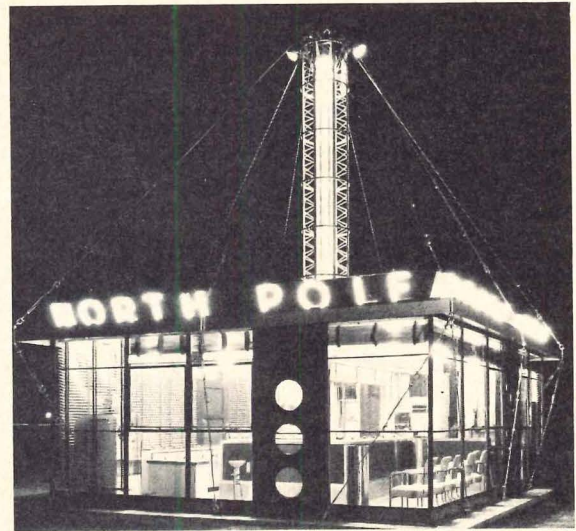
Bicentennial events under soft cover

Demountable structures designed by Harbeson Hough Livingston & Larson (H₂L₂) of Philadelphia and engineered by Geiger-Berger of New York were selected by Philadelphia's Bicentennial committee, Philadelphia '76, as the official commemorative structures for events this summer. The tensile structures will be located along two major linear spaces at either side of the city: the Benjamin Franklin Parkway on the west and Independence Mall on the east. The first of the tents will be put in place in May.

The Parkway Theater at the beginning of Franklin Parkway will be erected at the entrance to the Phila-



Courtesy Swallow Press



Chicago exhibit includes ice cream shop, 1938 (above) by Bertrand Goldberg, Gilmer Black, associate; Bruning House, 1936 (left) by George and William Keck.

delphia Museum of Art, and the museum steps will provide seating for 2500 people. Close by at Eakins Oval will be a cocoonlike structure seemingly suspended between rows of trees but actually supported by 16 steel masts. Named the Pennsylvania Folklife Festival Pavilion, the 37-ft-long "great hall" will house exhibits and demonstrations of work by artists. Along the length of the parkway will be six mini-stages.

The largest structure, the Independence Mall Amphitheater, will be used for a variety of events including a nightly presentation of the play, *1776*. It will cover 44,000 sq ft. Like the others, the Independence Mall tent then may be removed, cleaned, and stored, and re-erected for use at another time. The verified life cycle of these structures is 10 years.

The fabric is translucent vinyl-coated polyester stretched over tubular steel frames, supported by steel masts, and guyed in place by steel cables.

'Chicago Architects' balances the record

The trouble with being a "mecca"—as is Chicago in the area of high-rise, steel-frame construction—is that ideas which are out of the mainstream tend to be overlooked or lost. Without waiting for history to discover them, four Chicago architects have organized an exhibition to "show the buildings of everyday life" in their city. "Chicago Ar-

chitects" opened Feb. 27 in New York at Cooper Union, will be exhibited in Gund Hall, Harvard University, starting April 1, and from there will be displayed in Chicago, April 30–May 30, in the Time-Life Building.

After a brief tribute to the Chicago skyscraper, the show launches into a series of revelations: the widespread use of brick in domestic architecture, Art Deco buildings, kitsch design, and ordinary architecture like ice cream stands and gas stations.

The organizers of the show—all natives of Chicago—Laurence Booth, Stuart Cohen, Stanley Tigerman, and Benjamin Weese—also contributed works to the exhibition. Cohen and Tigerman collaborated on a 119-page catalog with black and white reproductions of every item in the exhibit and a brief biography of each architect, of which there are 47.

The show consists totally of photographs and plans covering a range of building types and styles from the late 1800s until today. The most striking aspect in terms of presentation is the display of the works on shoulder-height stands, designed by Advanced Research in Design, Chicago. The stands fit together in L-shapes and display the mounted photographs at a more horizontal angle than usual.

"Chicago Architects" includes a large number of works by George Fred Keck, 81, who still practices with his younger brother, William. The Keck work is distinctive for its lavish use of glass block, hard surfaces, and circu-

lar walls. One of two houses from Chicago's 1933 "A Century of Progress" exposition, by Keck, the "House of Tomorrow" (1886–1966), is on view. The other is the Masonry House by Andrew Rebori who, according to reports, is the sensatioal "find" by New York architects at the Cooper Union showing.

Nine receive AIA honor awards

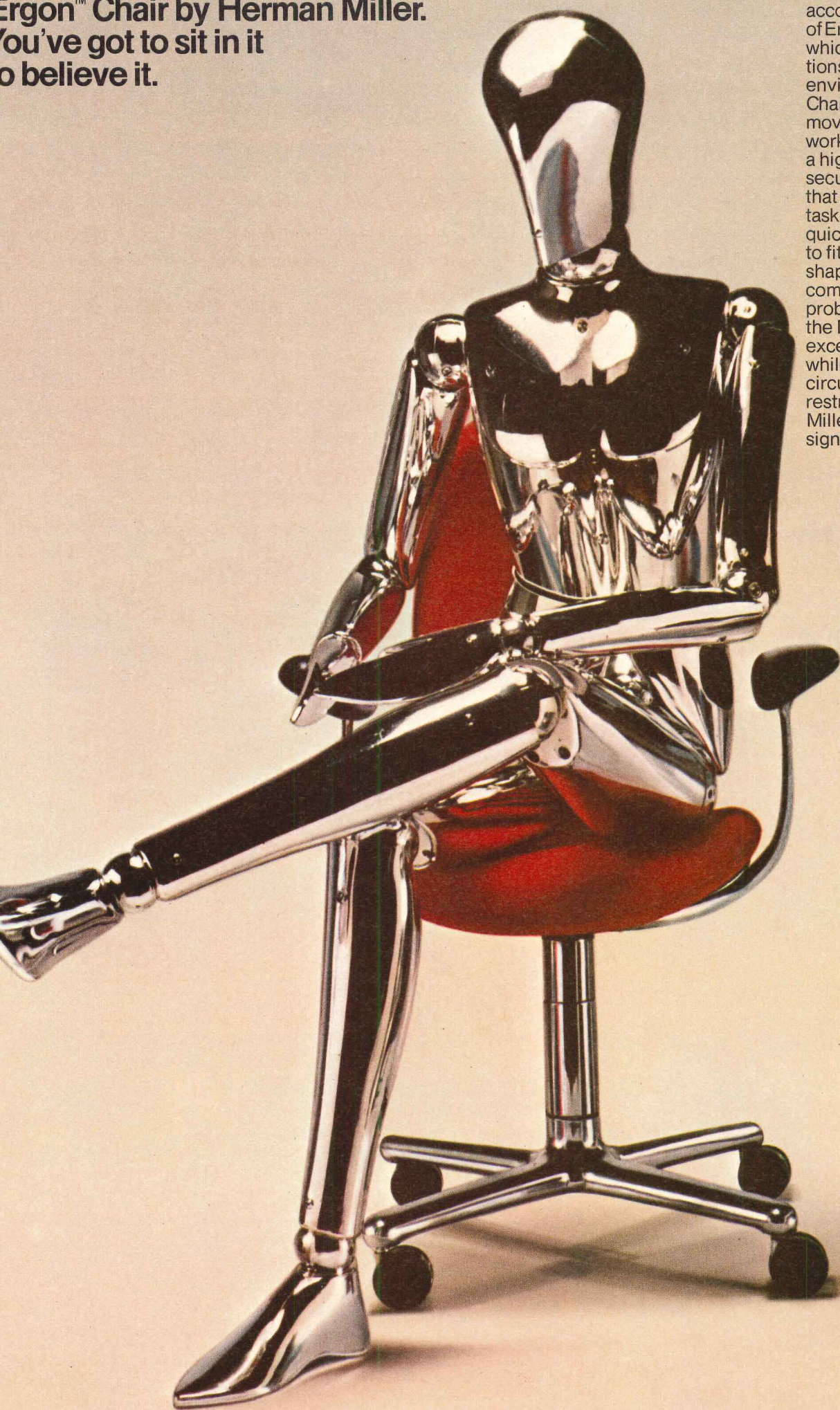
The American Institute of Architects has selected nine firms—one twice—to receive Honor Awards for distinguished buildings. This is the first year an extra jury team was added to pick recipients for "extended use" projects.

The winners are **Anderson Notter Associates** of Boston for the Old Boston City Hall; **Davis, Brody & Associates**, New York, for Waterside, New York; **Myron Goldfinger**, AIA, New York for Marcus House, Bedford, N.Y.; **Gwathmey Siegel Architects**, New York, for both the dormitory, dining, and student union facility, State University College, Purchase, N.Y., and Whig Hall of Princeton University, New Jersey; and **Hardy Holzman Pfeiffer Associates**, New York, for the Columbus Occupational Health Center.

William Kessler & Associates, Detroit, for the Center for Creative Studies, Detroit; **Miller Hanson Westerbeek Bell Architects** of Minneapolis for Butler Square, Minneapolis; **Richard Meier & Associates**, New York, [continued on page 29]

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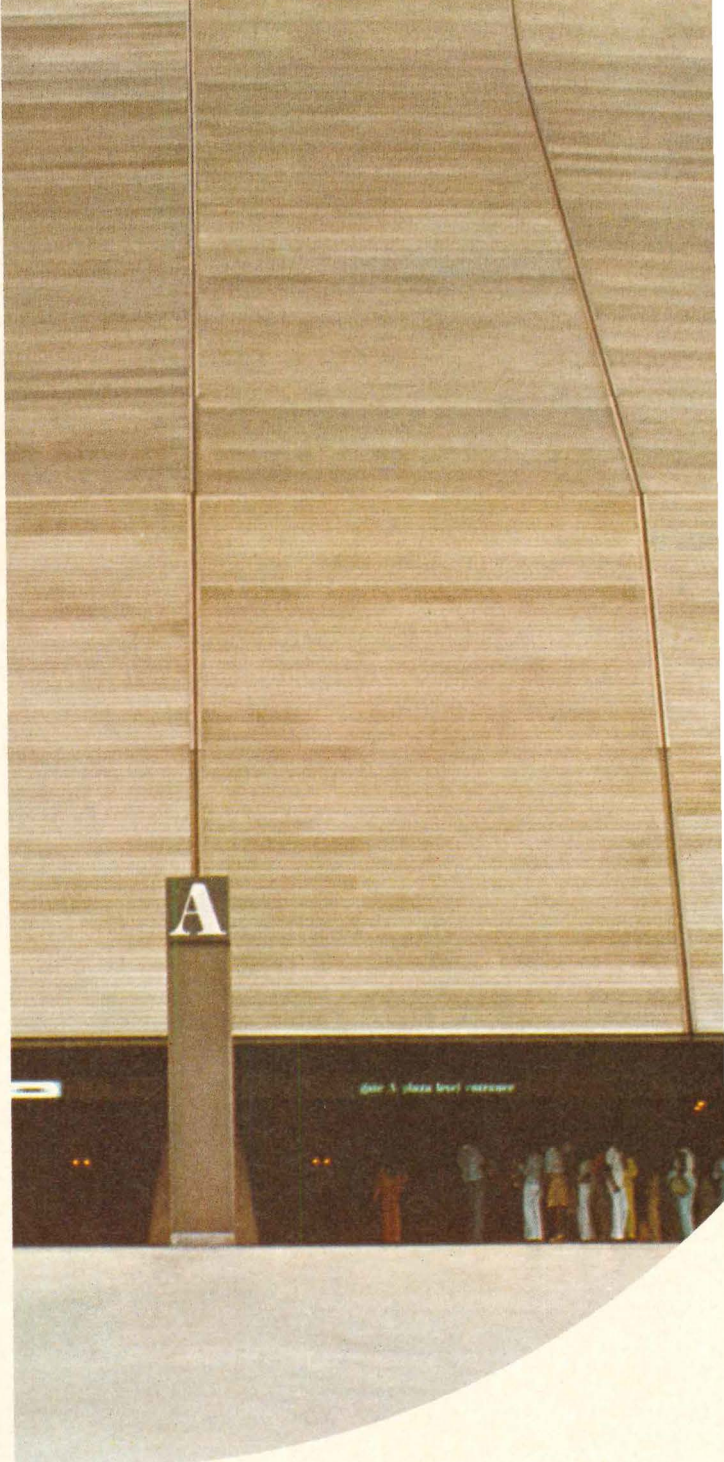
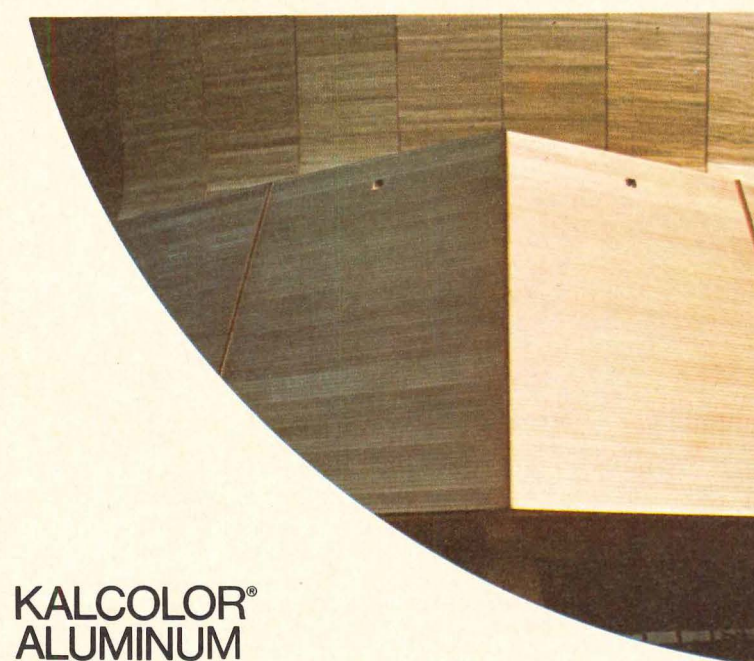
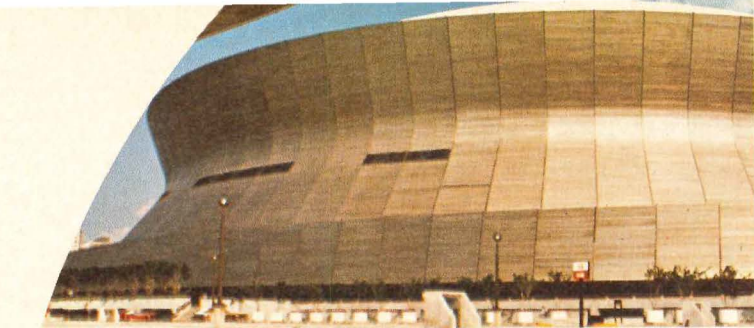
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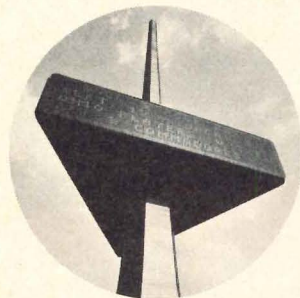
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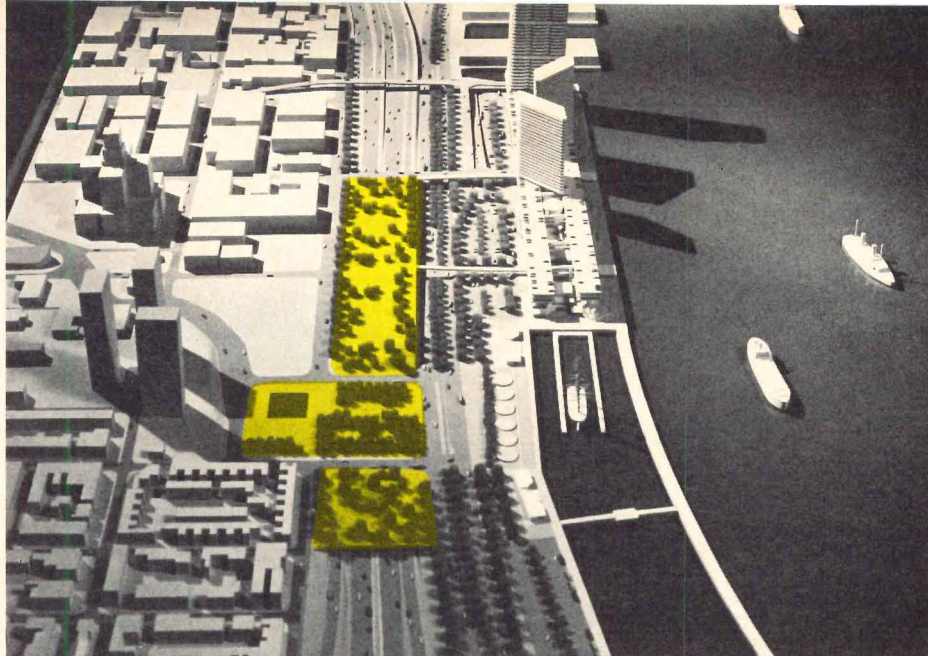
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Orlando Cabanban

Penn's Landing model of public World Sculpture Garden and Boat Basin (foreground) and private residential and commercial development. Shaded area is landscaped expressway cover.

News report continued from page 24

for the Douglas House, Harbor Springs, Mich.; and C.F. Murphy Associates, Chicago, for the Kemper Memorial Arena, Kansas City, Mo.

Chairman of the Honor Awards jury was John Burgee of New York. Serving with him were Francis Gassner of Memphis, Tenn.; Gerald McCue of San Francisco; Peter Tarapata of Bloomfield Hills, Mich.; and Harold Nash III, a Boston Architectural Center student.

Chairman of the jury team for extended use was Jean Paul Carlhian of Boston. Others, all known for their work in the preservation field, were Giorgio Cavaglieri of New York; J. Everette Fauber Jr. of Lynchburg, Va.; Ralph Youngren of Chicago; and John Graves, graduate student at the University of California, Berkeley.

Penn's Landing retrieves the river

Philadelphia is rediscovering its waterfront and has completed public improvements within the Penn's Landing project, located on the Delaware River. Begun in August of 1974, public facilities, including the World Sculpture Garden, will be ready for use this month. The garden, by Murphy Levy Wurman of Philadelphia—the firm which undertook overall design of the Landing's public elements—is a chain of six circular basins permanently displaying historic art from several countries abroad.

A 10-acre boat basin also will be re-



Lawrence Williams

Penn's Landing site on Delaware River.



Port of History Orientation Building.



Overlook at end of Boat Basin quay.

ceiving an installation of historic military ships and will be ready for river tour boats and visiting ships beginning in May. A sculptural overlook by Murphy Levy Wurman is at end of the quay forming the basin and provides views up and down the river and of the city.

Under construction is the Port of History Orientation Building, a museum designed by Alesker & Reiff of Philadelphia. The museum will contain

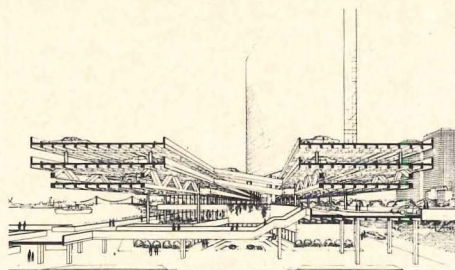
News report

a performing arts theater, exhibition space and classrooms, and observation platforms on its roof.

Penn's Landing is a phased development scheduled for completion around 1982. It will cover nearly 38 acres, most of it landfill, along the west bank of the river. The state and city contributed \$17 million for the landfill and bulk-heading, according to an original design by Geddes Brecher Qualls Cunningham of Philadelphia. Murphy Levy Wurman was in charge of the additional \$13 million public improvements, as previously mentioned, in conjunction with Sanders & Thomas/Day & Zimmermann, who engineered the project. Landscaping, paving, utilities, and public shelters were among these improvements.

Linking Penn's Landing to the city will be a cover over the I-95 Expressway under construction. The cover is by Collins DuTot Partnership, a member of the Delta Group.

Skidmore, Owings & Merrill was selected in a competition of archi-



SOM's proposal, looking south.

tect/developer teams to be architects for the mixed-use private development at the northernmost end of the Landing. SOM's project, postponed by a serious delay of work on I-95 and its covered link to the Landing, is to be built in three phases. Teamed with SOM on this project is McCloskey Enterprises and associated architects Alesker & Reiff. The competition was sponsored by OPDC (Old Philadelphia Development Corp.) Penn's Landing Corporation. The two other teams as finalists were Geddes Brecher Qualls Cunningham and Frankel Enterprises; and Bower & Fradley and Mondev Corp.

The SOM design consists of lower levels devoted to shops, restaurants, and entertainment activities. Above is the esplanade with viaduct approaches

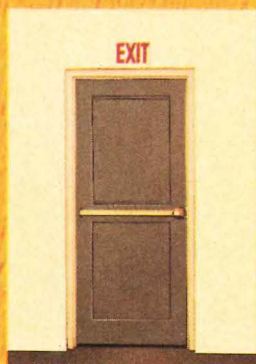
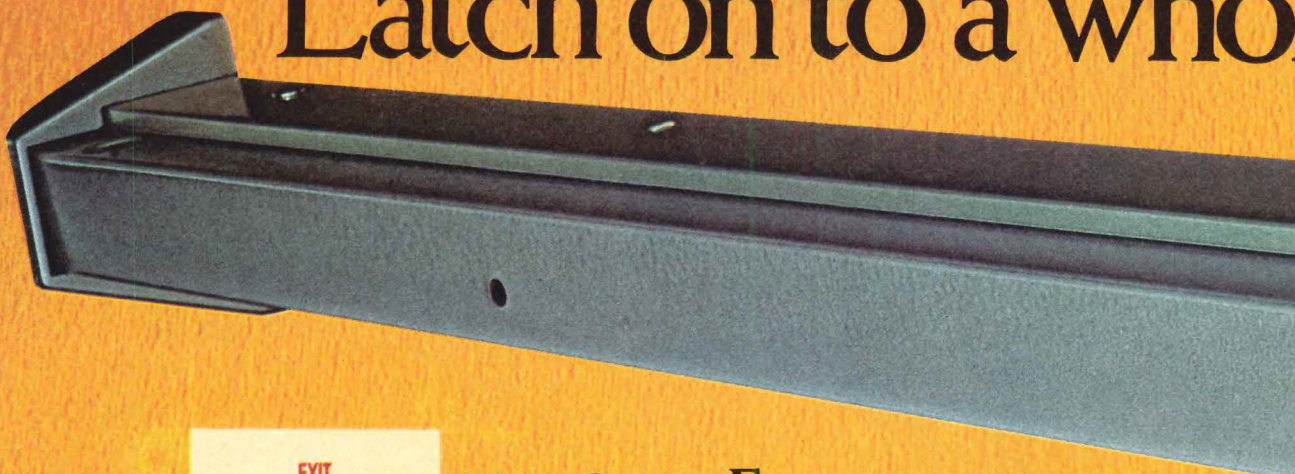
to Penn's Landing. The uppermost levels will be parking decks with apartment, office, and hotel towers above.

Although one of the objectives of this plan is to make it people-oriented, it presents some objectionable environments which, if not corrected satisfactorily, could discourage public use. Particularly disturbing is the location of public use areas at the lowest level sheltered from sun and sky, which will be wasted on cars parked on the upper decks. With a megastructure above them, few will be aware of a waterfront environment at all.

OPDC Penn's Landing is alert to this difficulty and says that the problem essentially is an architectural, not a planning, one and that the environment can be made pleasant through good design. The arrangement of parking relative to other factors was a major determinant of SOM's winning the commission.

The alleged advantage of the SOM plan is that an open space separation between the lower levels and parking provides views of the river to those approaching the development from the city, as well as offering views of the

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cityscape to those at the waterfront. The other two schemes in the competition had parking structures which blocked this two-way visibility. However, the visibility of the river-front from the city through the opening of the SOM megastructure is problematic, whereas the lack of sunlight and open space—essential ingredients of a waterfront—is a certain sacrifice.

Giving consideration to retail needs also is a major concern of the sponsors, who want the project to be an economic success, and having retail by the water's edge would achieve this goal, said Robert MacIntyre, managing director of OPDC Penn's Landing. A commitment on the private development is expected in a year with construction beginning six months later. [Ann Carter]

What if, hasn't been at Schuylkill River

A Venturi & Rauch/Murphy Levy Wurman proposal to revive and enliven the 16-mile Schuylkill River corridor west of Philadelphia has met a fate almost

worse than total rejection; it has been ignored. Denise Scott Brown, the Venturi & Rauch partner in charge, said that various government agencies have neglected opportunities to act on the recommendations. Regarding a collection of signs to help direct public attention to the amenities of the corridor and of Fairmont Park, which the corridor embraces, one commissioner stated the park signs were too attractive and would be stolen.



Signage for Schuylkill River corridor.

The study was conducted through a 1974 City Edges grant from the National Endowment for the Arts. Much of the information system was designed for the expressway that cuts through the corridor; the pop culture signs

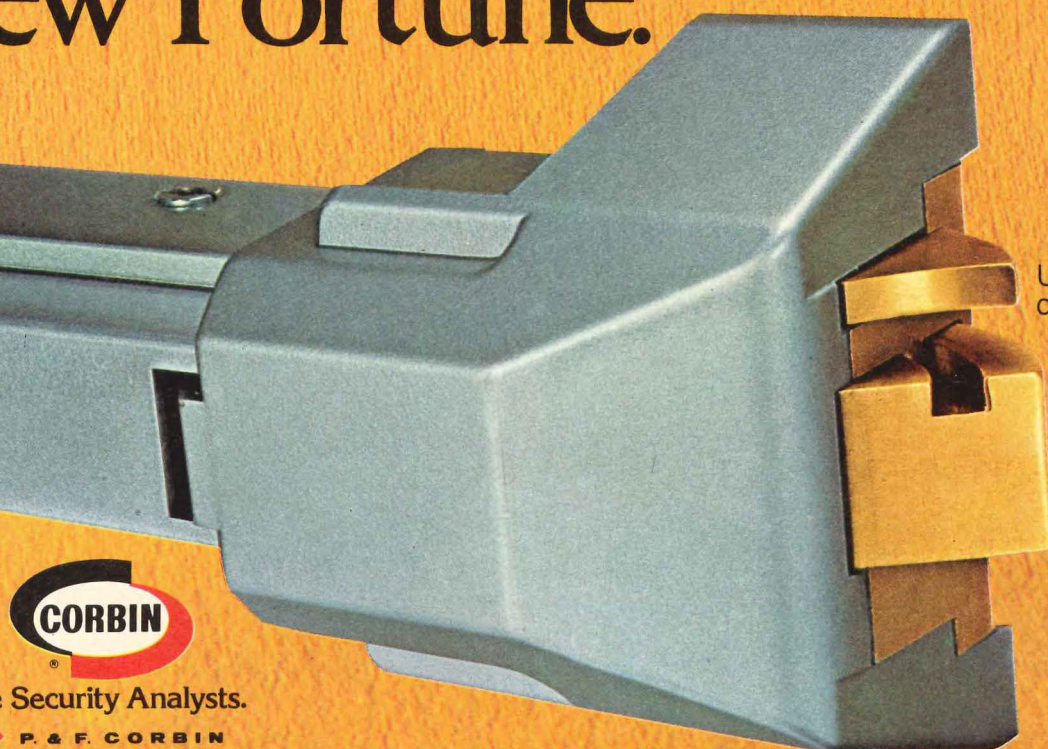
would convey the city image and promote Bicentennial awareness. Photos of these signs are shown in a photo montage on page 45.

Mitchell/Giurgola, others, win awards

The American Institute of Architects has given the 1976 Architectural Firm Award to Mitchell/Giurgola Architects of Philadelphia and New York. The award is the highest the Institute can bestow on a firm, and this year's presentation was made for Mitchell/Giurgola's continuing practice of producing distinguished architecture.

The jury found the firm's work reflecting "the best qualities and concerns influencing architecture today" and consisting of both "isolated monuments of splendid ingenuity and modest fragments of a larger urban fabric." Founded in 1958, the firm received its first major project, in 1960, the Wright Brothers Memorial Visitors Center, Kill Devil Hills, N.C. Among its award-winning projects are the MDRT Founda- [continued on page 37]

ew Fortune.



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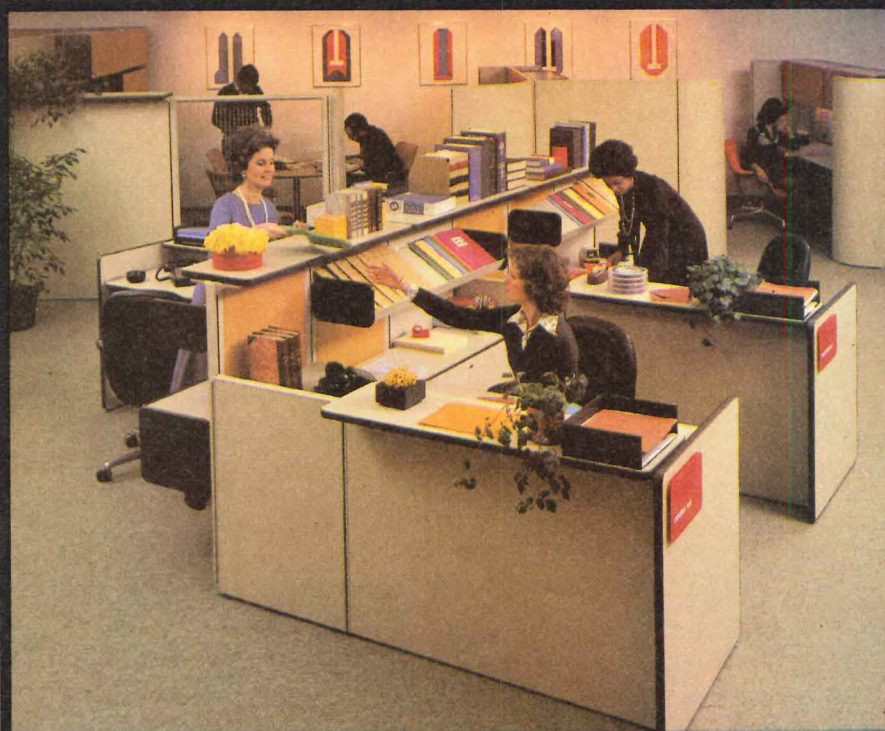
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In 3½ hours you've got a complete room. Two people can start from scratch and put together a complete, 10' x 10' Super Room in about 3½ hours. They erect the room and just plug it in.

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can be skidded from one place to another after it's fully assembled. At the cost of change. A Super Room quickly disassembled and set up again here. Count on relocation costs being one quarter of what it would take to a movable partition room. Savings are greater when compared to conventional all construction.

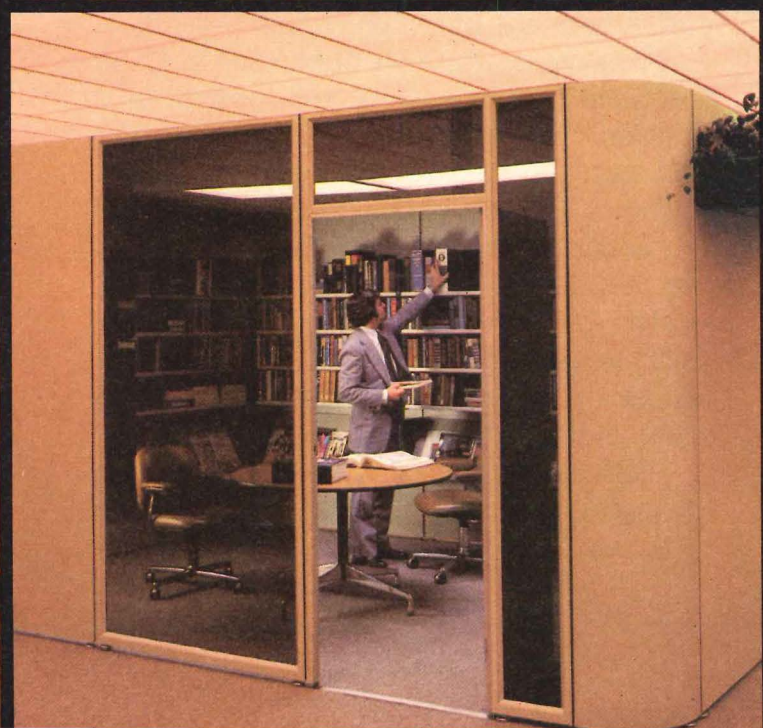
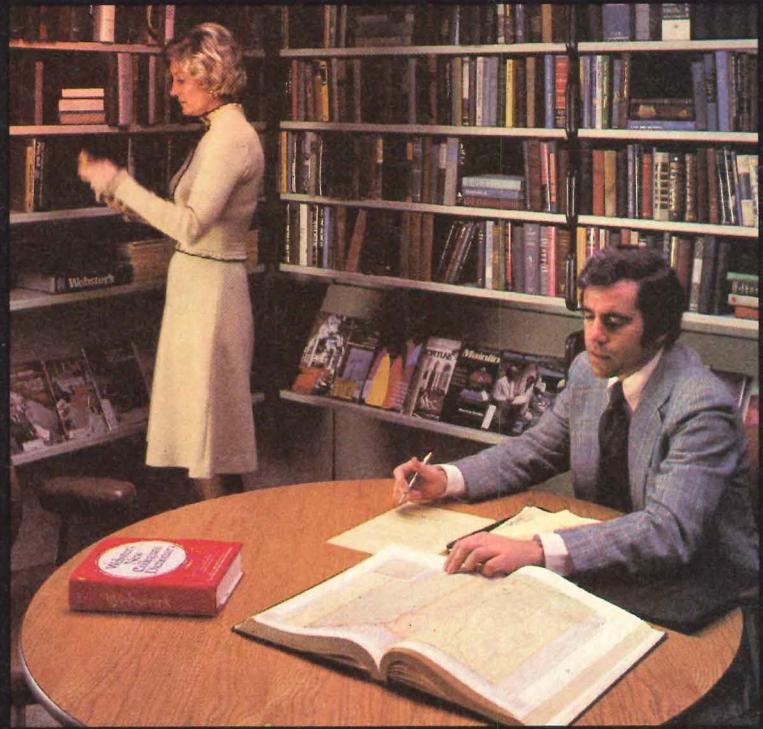
ere's a real room that can change according to the requirements of the company Action Office does. That's because it much a part of Action Office.

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tion Hall, Bryn Mawr, Pa., 1974, and Columbus East High School, Columbus, Ind., 1975.

The AIA also announced that recipient of the 1976 Edward C. Kemper Award, an honor given for significant contribution to the Institute and to the profession, is **Leo A. Daly** of Omaha, Neb. In 1972, Daly became chairman of the AIA Task Force on Energy Conservation which developed two major documents on energy for the Institute. In 1973, Daly was elected a Fellow of the AIA. He is president of the Leo A. Daly Company, founded in 1915 by his father, and currently maintaining offices in the United States, Europe, the Middle East, and the Orient.

AIA medal recipients include: **Edmund N. Bacon**, a native of Philadelphia, in recognition of his accomplishments as executive director of the Philadelphia City Planning Commission, which led revitalization of downtown Philadelphia during the 1950s and 1960s.

Charles A. Blessing, head of city planning for Detroit, Mich. from 1953 to 1974, for his drawings documenting cities throughout the world. **Wendell J. Campbell**, a founder and the first president of the National Organization for Minority Architects, has been named recipient of a medal awarded in honor of the late civil rights leader Whitney Young. Campbell heads Wendell Campbell Associates of Chicago.

Artist and author **Gordon Cullen** of Great Britain for his book, *Townscape*, published in 1961; historian **James Marston Fitch**, professor and director of the Graduate Program in Historic Preservation at Columbia University, for his work as teacher, author, and critic; The Institute for Architecture and Urban Studies, New York, for its research and education programs; **Robert Le Ricolais**, French-born senior fellow in architecture at the University of Pennsylvania School of Fine Arts, for architectural research.

The **New York City Planning Commission** for its creative use of zoning and planning legislation to establish Soho (for South of Houston St.), an art-

ists' residential district in lower Manhattan; **Vincent J. Scully**, a member of the Yale University faculty since 1947 and author of more than two dozen books, for his accomplishments as architectural historian. Artist **Saul Steinberg**, a native of Romania whose drawings are familiar from the pages of *The New Yorker*, for his artistic comments on the built environment.

School architecture program of NEA set

Aase Eriksen of Educational Futures, Inc., Philadelphia, has been named national coordinator of an architecture-in-the-schools program to be launched this fall by the National Endowment for the Arts. Conditional approval has been given for projects in 20 states, and Dr. Eriksen will be working with state arts councils and school administrators to ready the programs.

Dr. Eriksen holds a Ph.D. in comparative education and a masters in architecture. In her capacity as coordinator, she will work with James Ellison,

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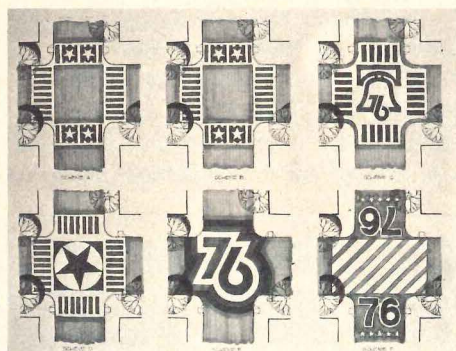
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News report

staff executive for the AIA's Environmental Education Committee.

The first programs will be operated through the following state arts councils: Alabama, Alaska, Arkansas, Delaware, Florida, Hawaii, Illinois, Indiana, Iowa, Minnesota, Nebraska, New Hampshire, New Jersey, New Mexico, Ohio, Oklahoma, South Carolina, Texas, Utah, and Virginia. Also participating will be the Center for City Building Educational Programs, Los Angeles, and the New York Foundation for the Arts. The architecture project comes under the NEA's Artists-in-the-Schools Program.

Color emphasis for historic district



Street graphics for Philadelphia.

The 125-square-block historic district of Philadelphia is preparing to greet 40 million visitors this Bicentennial season by providing special services such as extra drinking fountains installed on fire plugs and by adding bright decorative elements like patterned crosswalks that will lure people through the district to less famous landmarks.

The Schnadelbach Braun Partnership, an architectural and landscape firm in Philadelphia, received the commission to design these improvements and to carry out a strategy of helping people find their way from the three popular shrines—the Liberty Bell, Independence Hall, and the home of Betsy Ross—to less well-known historic sites. Among improvements are programs of tree planting, painting building walls with murals, refurbishing Washington and Franklin squares (adding benches, sculptured water fountains, information centers), and reopening subway entrances in the parks.

Calendar

Through June 13. "Designing a Nation's Capitol" exhibit of extant original drawings entered in the 1792 first federal architectural competition, at the Octagon, Washington, D.C.

Through Sept. 26. "Signs of Life: Symbols in the American City" exhibit, Renwick Gallery, Washington, D.C.

Apr. 11–Oct. "Three Centuries of American Art," Philadelphia Museum.

Apr. 13. Exhibit of ten architectural models by Andrea Palladio, University of Virginia, Charlottesville.

Apr. 13–June 13. "A Tribute to Alvar Aalto," The Fort Worth Art Museum.

Apr. 19–23. Second Southeastern conference on application of solar energy, sponsored by Louisiana State University, Hilton Inn at Corporate Square, Baton Rouge, La.

Apr. 30–May 30. "Chicago Architects," Time-Life Building, Chicago.

May 1–June 10. "One Hundred Years of Chicago Architecture," the Museum of Contemporary Art, Chicago.

May 2–5. Annual convention of the AIA, Philadelphia, Pa.

May 10–12. Eighth annual apartment builder/developer conference and exposition, New Orleans, La.

May 10–16. Historic Preservation Week.

May 11–12. Third annual safety and health conference and exposition, sponsored by Occupational Hazards magazine, Hilton Hotel, New York City.

May 12–14. Annual national engineering conference sponsored by the American Institute of Steel Construction, Peachtree Plaza Hotel, Atlanta.

May 19–24. Meeting of the Society of Architectural Historians, Philadelphia.

May 24–28. International Symposium on Lower Cost Housing Problems, Regency Hyatt Hotel, Atlanta, Ga.

May 25–28. Seventh annual conference of the Environmental Design Research Association, University of British Columbia, Vancouver, B.C.

May 31–June 11. "Habitat," the United Nations conference on human settlements, Vancouver, B.C.

June 5–Sept. 6. "The Eye of Thomas Jefferson," Bicentennial exhibit of the National Gallery of Art, Washington, D.C.

June 13–18. International Design Conference in Aspen, Colo.

June 21–23. Twentieth annual convention and exhibit of the Construction

Specifications Institute, Philadelphia.
June 24–27. Conference of the New England Solar Energy Association, University of Massachusetts, Amherst.
July 3–31. Seventh annual World Game Workshop sponsored by Earth Metabolic Design, Inc. in conjunction with R. Buckminster Fuller and the University City Science Center of Philadelphia and hosted by the University of Pennsylvania and its University Museum, Philadelphia.

continued from page 31

In place of a keynote speaker, a Keynote Fable entitled "The Fable of What If, Could Be" will be presented, accompanied by slides and music on the night of May 2 at the First City Troop Armory.

The convention theme is "An American City: the Architecture of Information." Although events will take place throughout the city, most theme sessions will be held in locations along Chestnut St.; convention headquarters are in the Sheraton Hotel.

Theme sessions will be held the afternoons of May 3 and 5, run by 25 professionals from various disciplines; among them are Jonas Salk, Ivan Chermayeff, Doreen Nelson, and Lawrence Halprin.

Much will be said about energy this year. At a mid-winter press conference, AIA president Louis de Moll of Philadelphia announced the AIA's posture on the energy issue and called for a united pursuit by government, private industry, and the public, towards making U.S. buildings energy efficient in 15 years. According to estimates by the Institute, the capital needed for this task ranges from \$729 billion to \$1460 billion, but energy savings of 30 percent for retrofitting and 60 percent for new buildings will recoup the investment in eight to ten years.

The last gala event of the convention week will be a Beaux-Arts Ball May 5 at the Academy of Music, preceded by a concert at 8:30 p.m. by the Philadelphia Orchestra under the direction of Eugene Ormandy.

All day on May 6, a dialogue between builders, planners, politicians, and city dwellers will be held, led by a number of professionals including Hans von Foerster, biophysicist and last year's keynote speaker at the Atlanta AIA Convention.

[continued on page 40]



Texas Tech Law Building, Lubbock, Texas. Omniplan Architects Harrell & Hamilton, Dallas.

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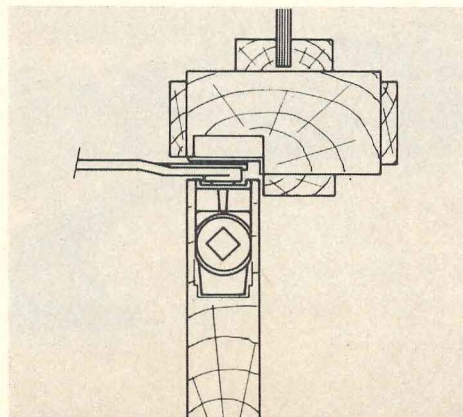
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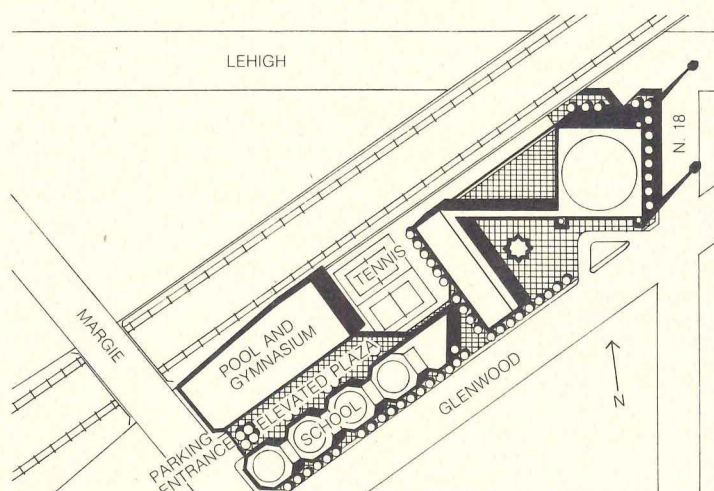
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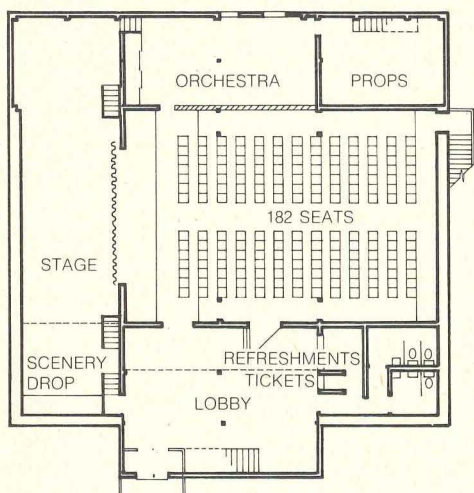
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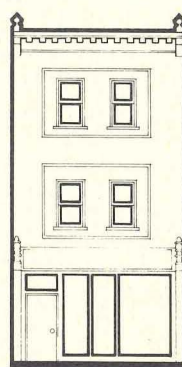
MOSQUE AND COMMUNITY COMPLEX



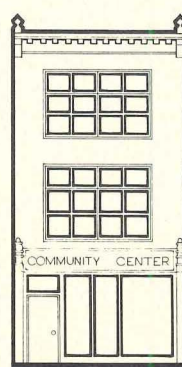
THE BARN PLAYHOUSE

George Pohl

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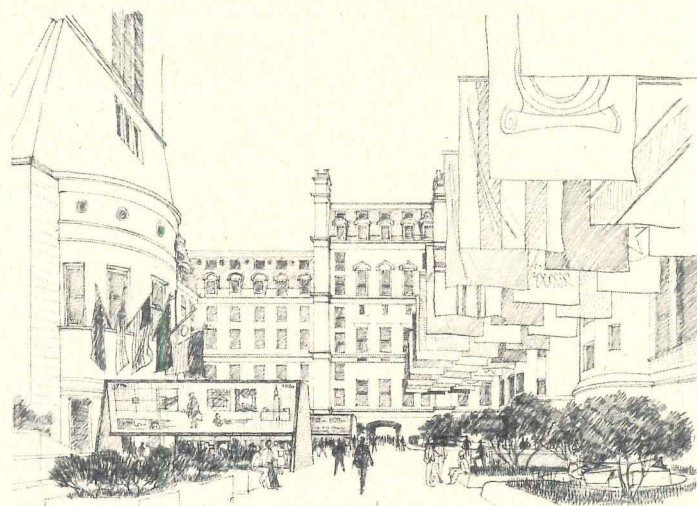
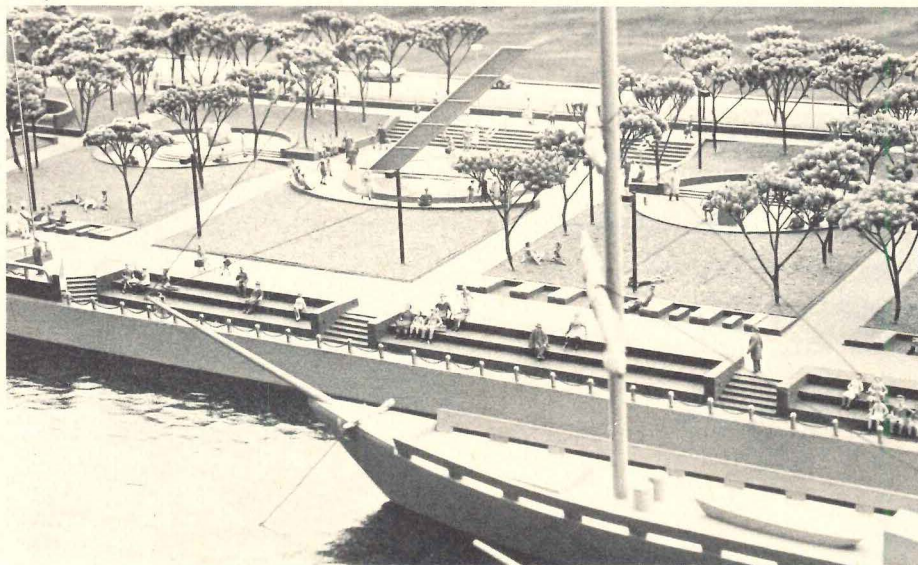


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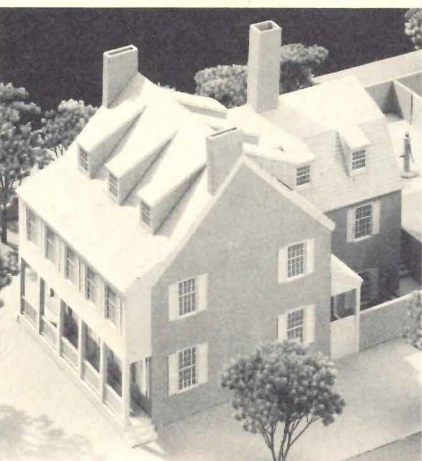


1 City Hall Courtyard—The hub of William Penn's design, the City Hall Courtyard, has undergone a series of permanent improvements designed by Murphy Levy Wurman, Architects. The new elements include special lighting, landscaping, a star-shaped fountain, two display cases, and a digital clock that will count down the minutes to the Fourth of July. The program called for reorganizing the courtyard so that a variety of activities could occur.

2 Architects Workshop—A group of paid and volunteer architects and draftsmen is now in its eighth year providing free design and planning services to low-income community groups in Philadelphia and its suburbs. It is one of 70 groups across the country that has received support from the AIA, but the Workshop now is an independent, nonprofit organization. One of the group's main functions is to act as ombudsman between the community and the city. Last year the Workshop handled 135 projects and conducted 350 building inspections. Three current projects include conversion of a 169-year-old barn into a theater for a community theater group in Norristown; bringing a three-story rowhouse up to code standards for Safe Streets Inc. which helps problem teenagers; and preparing a design concept for a Mosque and community complex to help the group obtain funding.

3 World Sculpture Garden—The creation of a two-acre garden in the Penn's Landing development on the waterfront (see p. 29) is an official Bicentennial project of the city. In it, works from countries around the world will be exhibited; designers of the park are Murphy Levy Wurman; with engineering by Sanders & Thomas/Day & Zimmermann. The garden is adjacent to a 10-acre Boat Basin and includes a sculptural sun-dial fountain.

4 Tun Tavern—Reconstruction of the building, Tun Tavern, in which the U.S. Marine Corps was formed, has been assigned to architects Harbeson Hough Livingston & Larson (H₂L₂) of Philadelphia. The building is to be erected on a site in the Penn's Landing area not far from the original site, which is covered by the Delaware Expressway. Details of the design will follow closely the original building. The Tavern will be used for a museum and offices, and the surrounding grounds for outdoor receptions.



Fritz Creative Services

4

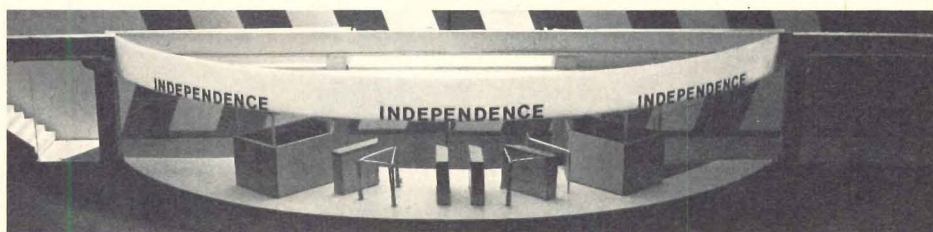
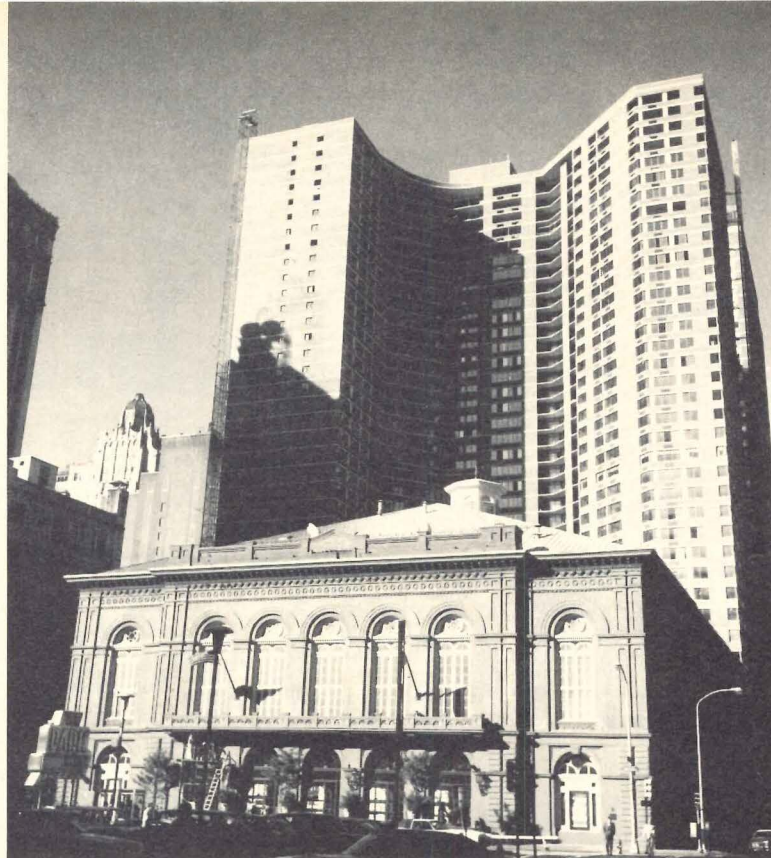
5 Academy House—A high-rise mixed-use building including 576 apartments is nearing completion behind Philadelphia's Academy of Music. Designed by Otto E. Reishert-Facilides & Associates of Philadelphia, the 37-story-high structure rises on a site of which 30,000 sq ft are owned by the Academy. Included in the tower are a rehearsal hall/experimental theater, stage expansion, and storage for the Academy as well as a 400-car garage.

6 Station opening—Freshly redesigned for the Bicentennial is the Independence Mall Subway Station for the Market-Frankford line in Philadelphia. Architects Ueland & Junker addressed the commemorative theme by graphics in red, white, and blue; safety—both actual and perceptual—is enhanced by greater visibility; fewer barriers and niches, higher lighting levels; provisions for handicapped persons include wider pass gates operated automatically by the cashier, elimination of roto-gates, and bright yellow rubber safety strips at the platform edge.

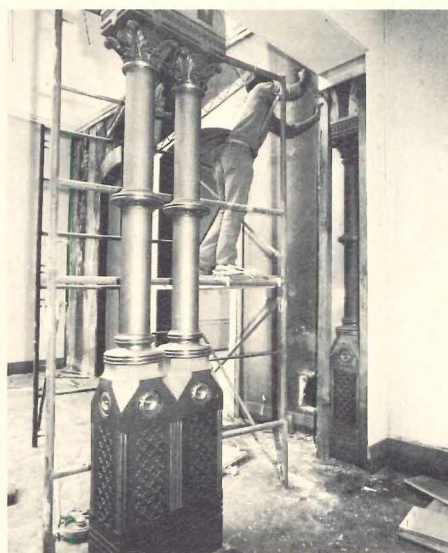
7 Pennsylvania Academy—The Victorian Gothic wonder of the 1876 Centennial, Frank Furness' Pennsylvania Academy of the Fine Arts, will reopen for the 1976 Bicentennial, newly restored and renovated at a cost of \$5 million, by architects Day & Zimmermann Associates of Philadelphia. During the work begun two years ago, ornamental walls and gold-plated columns were re-discovered beneath the plaster of a 1910 remodeling. Restoration work progressed without benefit of the original drawings, which Furness (1839–1912) produced for a competition, and which won him the Centennial commission. Only four original working drawings in the museum's collection were available.

8 Museum and synagogue—In construction between Independence Hall and the U.S. Mint is the Museum of American Jewish History with the Chapel of the Congregation Mikveh Israel. The museum portion with permanent and rotating exhibits commemorates the contribution of Jewish families and individuals to American life. The synagogue will seat 500; six classrooms will accommodate 120 students. Architects for the project are Harbeson Hough Livingston & Larson of Philadelphia.

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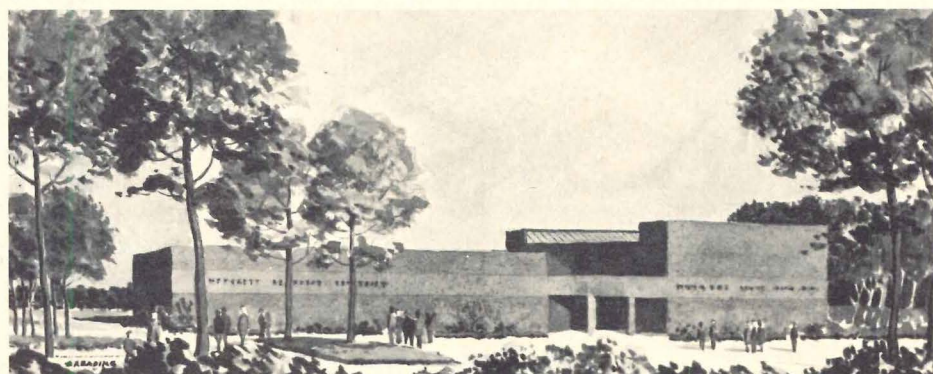


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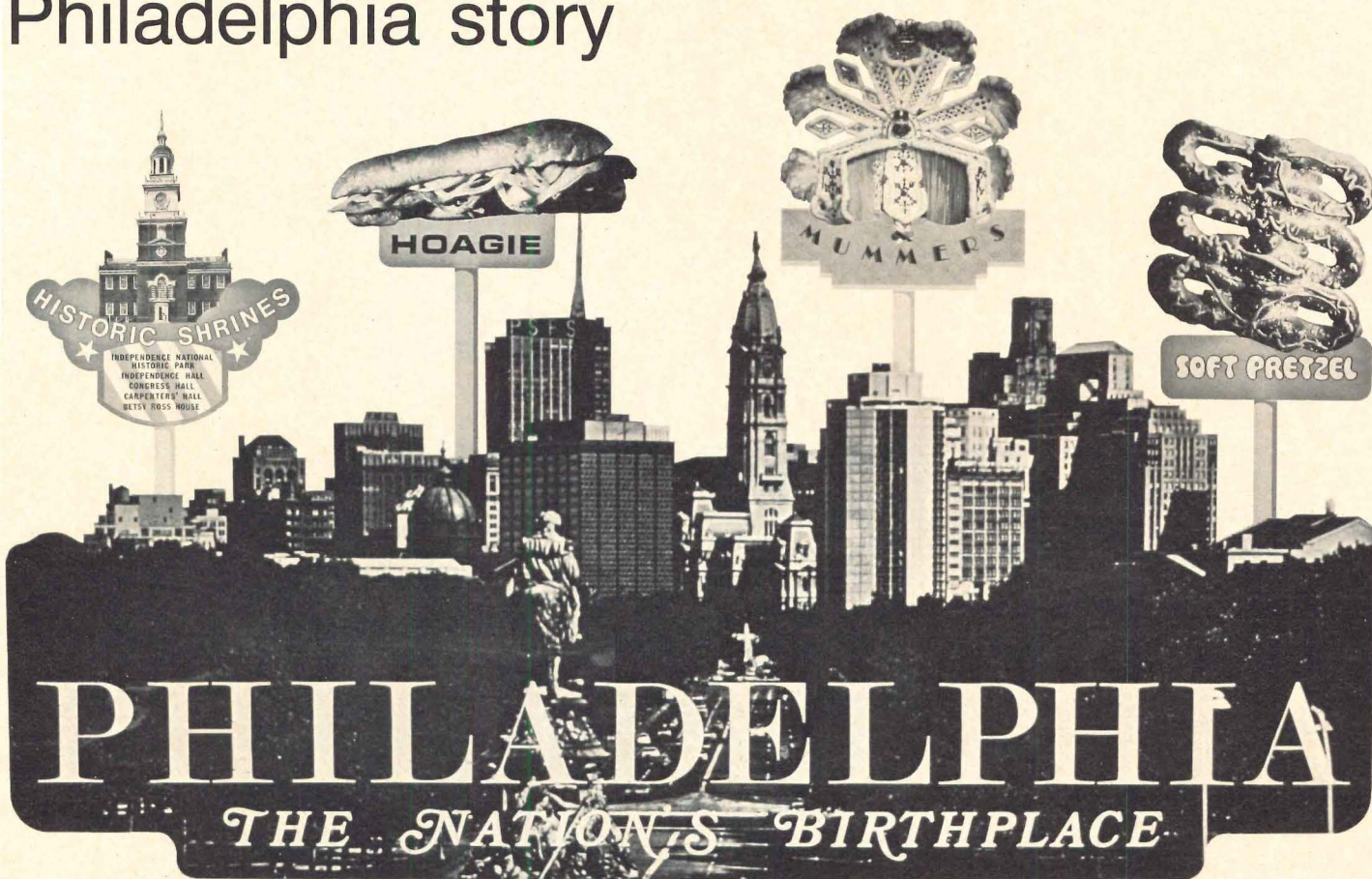
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Philadelphia story



Montage of illustrations taken from Venturi & Rauch's and Murphy Levy Wurman's City Edges proposal (see p. 31 for details).

In addition to its other claims to fame—hoagies, Eugene Ormandy, the Main Line, Sout' Philly (birthplace of Mario Lanza and Eddie Fisher) and of course the Mummers—Philadelphia now can boast of its urban design and architecture. Yet the two have about as much to do with each other as Philadelphia cream cheese and scrapple. The urban design and planning efforts commandeered by Edmund Bacon, Executive Director of City Planning Commission from 1949 to 1970, took overwhelming advantage of a propitious political, economic, and legislative climate to renew the city on a massive scale. Bacon was able to boldly implement urban design concepts previously more talked about than practiced. In "25 Years (Almost) After the Chinese Wall" P/A attempts to isolate the strengths and weaknesses of these principles and delve into the circumstances effecting their realization.

Unlike urban design and planning, architecture by the architects who made Philadelphia famous was more talked about than built—at least in Philadelphia. Yet Louis Kahn and his colleagues at the University of Pennsylvania in the early 1960s have had a major impact on architectural attitudes in the last half of the century. Even in Philadelphia, Kahn has become such a spiritual force that architecture executed before he appeared on the scene must now be viewed differently—as fragments of a rich and varied milieu that would provide him and others with source material. And similarly, architecture after Kahn is now approached

differently. Thus P/A has used Kahn as the dividing line between architecture past and present ("Philadelphia Before Kahn" and "Philadelphia After Kahn"). If there is no discussion about the in-between period—during Kahn's years of practice there—that is precisely the point.

Following those articles, a wrap-up of recent Bicentennial efforts seems to support the notion that Philadelphia exerted more effort thinking about the Bicentennial than actually doing it (or leaving enough time at the end to do it). Yet Venturi & Rauch's conceptually informed Franklin Court project brilliantly unites most of the attitudes and some of the styles found in Philadelphia's architectural heritage. Its comment about preservation is apt.

Next, P/A presents several projects executed by architects associated with Kahn and "the Philadelphia School" whose works have been realized in recent years in Philadelphia, Mitchell/Giurgola and Louis Sauer. Included briefly is what could be the most outstanding high-rise erected in center city Philadelphia since the PSFS—the INA tower by Mitchell/Giurgola.

Finally, the issue ends with a presentation of Design Research's adaptive use of the Peabody & Stearn's Van Rensselaer mansion on Rittenhouse Square. The ending note is intentionally ironic and metaphoric: Despite the basic premise that *more* urban design and architecture will make our cities livable, obversely too much design can ruin a good thing.

Twenty-five years (almost) after the Chinese Wall

The effects of Philadelphia's planning and renewal efforts downtown are more visible and more strikingly successful than in other cities, though their weak points warrant as much close attention.

Before 1952, Philadelphia was famous for its Liberty Bell and W.C. Fields' one-liners. For the most part it was a dowdy, decaying city whose energy had been sapped by the railroad lines' (the so-called "main line") effect on suburban growth. Few need to be reminded of the staggering transformation that has taken place in the city since the 1950s. Most of the credit rightly falls upon Philadelphia-born architect and planner Edmund Bacon, Executive Director of the City Planning Commission from 1949 to 1970. Bacon was to Philadelphia what Robert Moses was to New York and Ed Logue to Boston. But Bacon distinguishes himself from his colleagues: Robert Moses, he feels, dealt with the power of money, Logue with the power of politics, but Bacon worked with the power of ideas. "Idea" in his case meant a three-dimensional urban design concept, formed into a functioning integrated whole. It is the "end-product" school of thinking prevalent in the halcyon years of big-time urban renewal in the 1950s and 1960s. Although as a planning approach it is being severely questioned today, nobody dismisses the fact that it brought concrete results.

The extent of Bacon's accomplishments in Philadelphia are as unarguable as the results are controversial. Where once a "Chinese Wall," a viaduct 16 tracks wide and eight blocks long nuzzled against the side of City Hall, there now rises a complex of office buildings (Penn Center and the newly completed Centre Square) replete with pedestrian esplanade and underground concourse. Where once a huge meat market was wedged between Independence Hall and the Delaware River, and seedy dilapidated rowhouses crowded historic landmarks, now appears Society Hill, a community instrumental in attracting the upper income groups back to the city. Independence Hall, once hidden by ware-

houses (and some rather handsome structures) now looks onto a grassy mall.

And where once a tawdry, seedy, squalid Market Street linked City Hall to the Mall's edge, there is still a tawdry, seedy, squalid Market Street. But that too will evidently change. So far a new office building has been built and a new department store and a large Gallery are under construction.

Even Penn's Landing—the 38-acre landfill and boat basin project for office/apartment/tourist and recreational complex along the Delaware River—is proceeding apace. (See News Report). Meanwhile, on the opposite river, the Schuylkill, a linear park extending from Fairmount Park down to the southern portion of the

city is projected to begin construction soon. It is designed by the Collins Du Tot Partnership, a member of the Delta Group.

All this action has successfully injected Philadelphia with vitality. From 1960 to 1970, the population in the downtown increased 13 percent. The phenomenon of the middle class returning to center city to live begins (and maybe ends) with Philadelphia. This is quite an achievement, in a city so decayed 30 years ago that it was likened to a doughnut with a hole in it. Not surprisingly, the median family income of those living in center city went from \$5500 in 1960 to \$13,300 in 1970 (adjusted for inflation). Property values in center city also rose—shifts not without their implications—some good, some not so good.

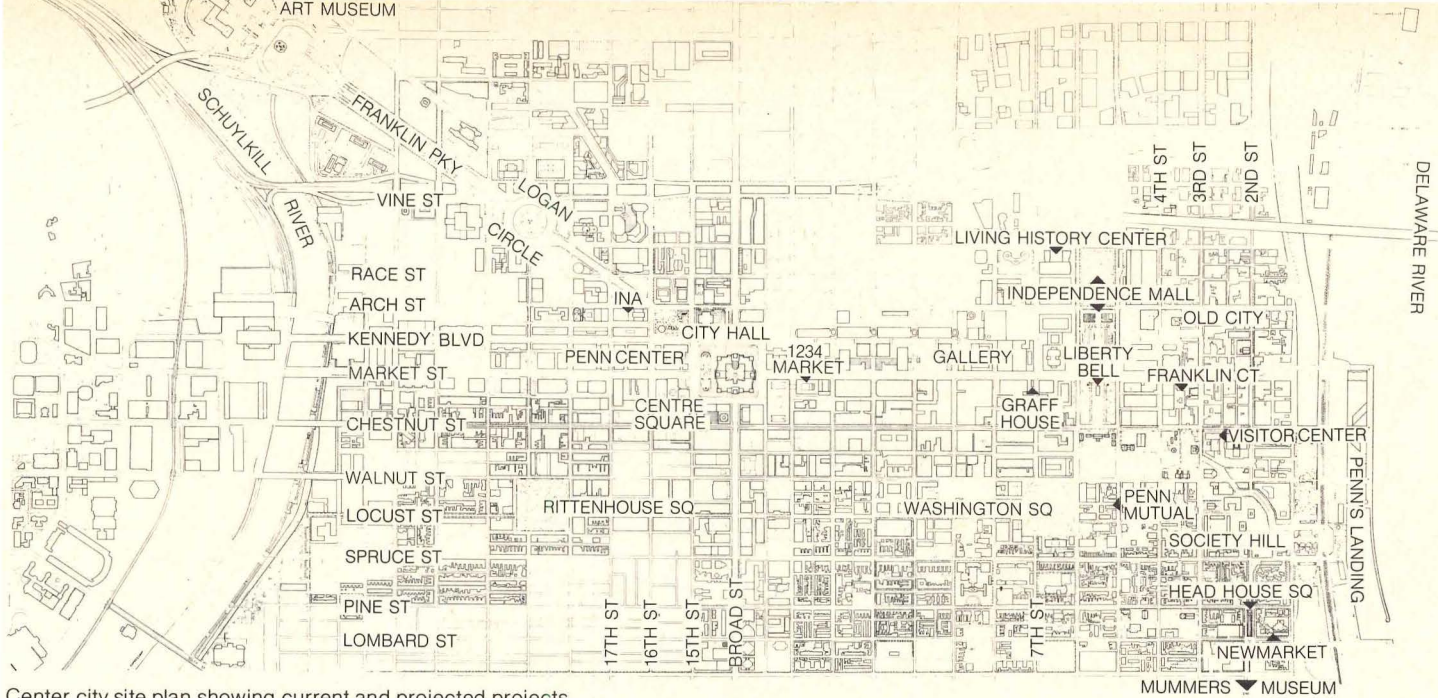
Courtesy City Planning Commission



The Chinese Wall, a viaduct of railroad tracks, and the old Broad Street Station were designed by Furness & Evans in 1880.



Lawrence Williams



Center city site plan showing current and projected projects.

Lawrence Williams

Alois Strobl



Penn Center's first two buildings by Emery Roth & Sons (left); recent addition, the Centre Square complex by Vincent Kling & Partners (right).

First you buy a Cuisinart

Before assessing this transformation, one is prompted to ask, how the hell did Bacon do it? He may answer, "the Idea"—those definitive schematic layouts he kept generating over the years—but several other ingredients were helpful. First, the city was ripe for change, physically and politically, when Bacon came on the scene in the late 1930s. A corrupt governmental machinery and richly chlorinated water were the only things distinctive about Philly then. A group of lawyers, planners, and architects, with Bacon among them, decided it was necessary to "get the people interested in physical change. Then they will be forced to see the need for good government." In 1942, they convinced the city to reinstate

the City Planning Commission, and created a citizen's watchdog group, the Citizens' Council on City Planning.

Bacon, an architect trained at Cornell and Cranbrook, was committed, compulsive, and no doubt a little crazy. He thought in terms of really four dimensions—movement in time through space. Grand vistas, changing perceptions, different functions, and different movement systems would all interlock horizontally and vertically in his ideal city.

In 1947, the Citizens' Council came forth with the "Better Philadelphia Exhibition" designed by Bacon and architect Oskar Stonorov. With rotating models and back-lit photo-mosaics the show illustrated some of these far-reaching urban design

concepts as applied to downtown Philadelphia. It had an extraordinary impact in terms of conveying an image to the people who in later years would be voting money for those projects.

When Bacon took over as executive director of the Planning Commission in 1949, he was fortunate in being able to take advantage of a new state redevelopment law. The law gave the city board leeway in deciding what could be redeveloped, and allowed it to create an agency to administer planning commission proposals. In addition, the Federal Housing Act of 1949 freed up federal money for Title 1 land write-down. Then in 1951, Philadelphia passed the Home Rule Charter that legislated a timed physical and fis-

Philadelphia planning

cal plan. Within a six-year framework, the City Planning Commission would present each year the projects it had planned over that time for budget approval. The six-year plan proved enormously successful, and is still used today.

The appropriate political climate obviously affected the outcome of the urban design proposals. Planners and politicians both worked together to get reform mayors Joseph Clark and Richardson Dilworth elected in 1952 and 1956 respectively. Their stay turned out to be a fortuitous one for urban design.

In this creation of the *mise en scène*, Bacon showed he had not only the power of ideas, but the power of persuasion. A significant step was getting the Pennsylvania Railroad to tear down the notorious Chinese Wall on land it owned in fee simple, and then *not* to parcel off the land piecemeal to developers. Somehow, the railroad did decide to tear down the tracks and station while retaining control over the land. At the time the demolition plan was announced, Bacon and a then little-known architect, Vincent Kling, happened to roll out their proposal for Penn Center on the site of the Chinese Wall. According to Bacon, loud shrieks sounded from their planning and professional peers for drawing up a scheme without a client, a program, or a given budget. (Nevertheless this sort of image projection has since become standard procedure in other city planning agencies.)

Citizens' groups were staunch allies of urban design too. The Greater Philadelphia Movement next began urging that a large meat market between Independence Hall and the Delaware River be relocated to South Philadelphia. Bacon had long had his eye on that oldest part of town as a place where landmarks and row-houses could be restored so middle and upper class residents would start moving back to the city. The area was designated for redevelopment and once the Federal Housing Act of 1954 made it clear that public improvements would be paid for, the Old Philadelphia Development Corporation began to attract private investors.

While Bacon always believed in powerful visual images, he didn't mind altering them as the need arose. In fact, other cooks were invited to stir the pot all the way through: in 1957 architects Oskar Stonorov, Vincent Kling, and Roy Larson worked with Bacon on updating his 1947 scheme for this redevelopment area, Washington Square East (soon to be known as Society Hill). Then Preston Andrade and Wilhelm von Moltke (of the Philadelphia planning staff) made another version. Finally, in 1958, the city held a competition for part of the site, which I.M. Pei won with still a further refinement of the plan. Market Street East has been through the same kind of metamorphoses.

Strangely, no "comprehensive" plan for all this urban development was actually decided upon until 1960. Before that, the

city relied mostly on schematics that Bacon provided. It seemed rather as if he were showing a photograph of the soufflé as it would look when baked, but refusing to release the recipe beforehand. And Bacon always remained the principal chef.

It's never perfect the first time

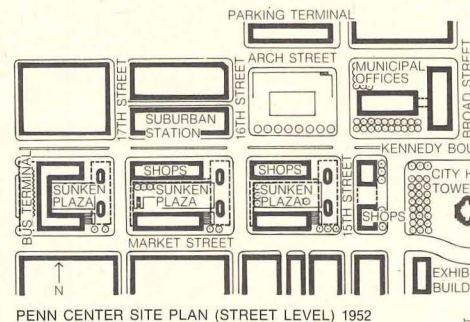
Unfortunately, each situation is not without its disappointments and compromises. Most of the new architecture in Philadelphia—beginning with the completion of the first two Penn Center office buildings (1954 to 1959)—attains a level of mediocrity that belies Philadelphia's architectural heritage (see "Philadelphia before Kahn" p. 52). The last office building constructed prior to Penn Center had been the spectacular Philadelphia Savings Fund Society (PSFS) Building in 1932—a hard act to follow. The best thing one can say is that the strong planning concept tied the generally banal, and sometimes kitsch, buildings in with the urban landscape more successfully than their counterparts in the rest of urban America.

While architects with prominent reputations were selected, few of the architects who have given Philadelphia its architectural reputations were involved in any major way. The firms that redesigned downtown were apparently ones which conformed to Bacon's aesthetic and which could offer a whole array of architectural services to the city, from programming to construction management. (During the early 1970s, investigations indicated that some were also forced to offer kickbacks on their commissions to city officials in the 1960s to keep those jobs rolling in.) Still, the corporate architect was a perfectly logical choice of Bacon's and partly a reason Bacon could accomplish so much in less than 30 years. No traumas, no prima donnas. But the results sometimes make you wonder.

Bacon explains that he sought Louis Kahn to help prepare the first Penn Center scheme, but Kahn couldn't feel comfortable with such peculiar exigencies as no client and no program. (Kling shrewdly accepted, and now, 30 years and seven towers later, they could rename this section Kling Center. Emery Roth got only two.)

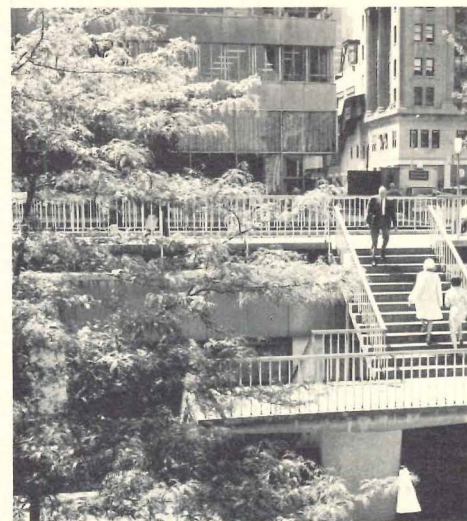
Later, in 1957, Kahn came up with his own visionary center city proposal. This scheme, however, strangely proposed a fortresslike series of large 440-ft-diameter doughnut-shaped monoliths to ring the core of the new city. Pedestrians would walk on a raised platform, while cars moved below at street level.

In terms of its urban design aspect, Penn Center didn't come off too well, owing to the compromise that had to be undertaken to get it going. Originally, Bacon and Kling had envisioned an underground concourse almost completely open to the sky. The railroad finally agreed to a concourse level, but their developer (Uris) and economic advisor wanted none of it, or at most, fully roofed, as low as possible, with lots of shops. Bacon convinced them to permit Kling to design it with a few sunken

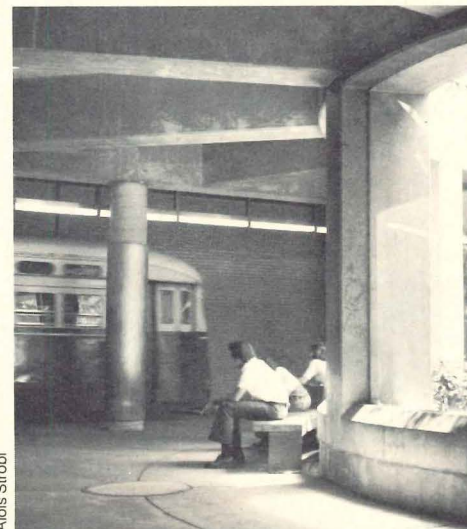


PENN CENTER SITE PLAN (STREET LEVEL) 1952

A 1952 scheme for Penn Center shows fully oper-



Sunken court (above and below) as realized.



Centre Square's enclosed street level court (below)



Abis Strobl

Tom Crane

Lawrence Williams

A black and white photograph of a street scene in New York City. The street is paved with cobblestones and runs between brick buildings. On the left, a building has a sign that reads "NEW YORK CITY". A streetcar is visible in the distance. A tall chimney is visible in the background. The image is oriented horizontally but is labeled as a vertical photograph in the caption.

A black and white photograph of a park area. In the foreground, several people are sitting on a wooden bench. The park is filled with trees, and a paved path leads through the center. In the background, a building with a prominent steeple is visible, surrounded by more trees and foliage. The scene is bright and sunny, with shadows cast on the ground.

David Morton

An aerial photograph of Chicago, Illinois, showing the downtown skyline and surrounding urban areas. The image captures a dense concentration of buildings, including the Willis Tower (now known as the Trump Tower) in the upper right, and the surrounding city blocks with their characteristic grid pattern. The image is in black and white, providing a historical perspective of the city's layout and architecture.

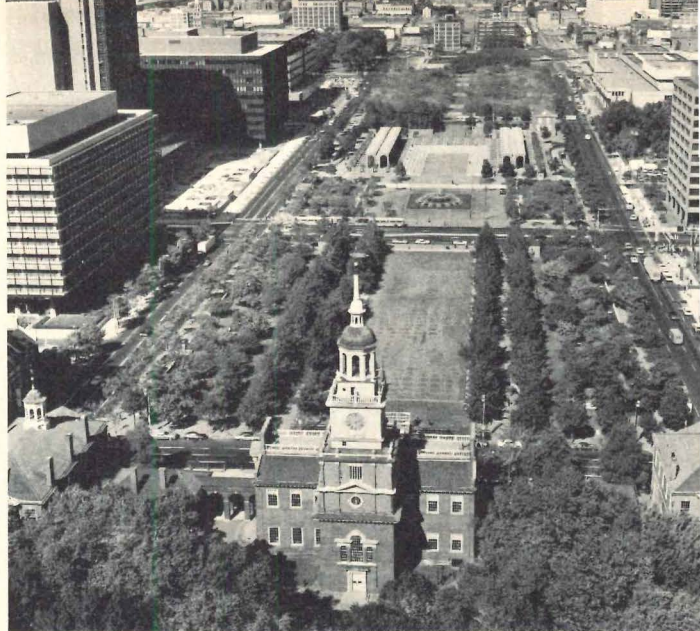
Most of work is finished (below left) but not all (below right).

A black and white photograph of a historic street scene in New Orleans. The street is paved with cobblestones and lined with trees on the left. On the right, there are multi-story buildings with ornate facades. A prominent black lamppost stands in the foreground. A sign on the left reads "FRENCH QUARTER".

David Morton



Independence Mall before (1950).



Independence Mall after.

has become a city one wants to *walk* through (as Bacon had hoped)—especially in these older sections.

One man's elixir

Nevertheless, the renovation hasn't solved Philadelphia's social problems. During the 1960s community groups, black architects, and University of Pennsylvania planners criticized the Bacon approach for its emphasis on physical design and economic regeneration in center city, while the vast number of urban poor on its edge lived in substandard housing. Society Hill in particular came under attack when it became clear that the slum may have been renewed, but the poor people had been removed. Their removal caused overcrowding elsewhere, as on nearby South Street, which the city had designated for an expressway.

An opposing planning attitude to the comprehensive physical plan began to emerge—one that sought participation and representation from grass-roots neighborhood groups. In fact, the South Street Expressway was overturned largely through collaboration between advocacy architects/planners and the community. Both Venturi & Rauch and The Architects' Workshop (a nonprofit group) worked on the South Street community's counterproposal to the expressway. That proposal called for enhancing the activities that South Street already harbored—neighborhood centers, shops, and meeting places for the local community. Sides were taken, with city planning and transportation agencies pitted against the community and its new kind of architects and planners. Today, a part of South Street is going through the self-revitalization of its New York counterpart, Soho, survivor of a similar battle.

Although anyone from the Bacon days can point to the extensive citizen participation of such organizations as the Citizens Council on City Planning and the Greater Philadelphia Movement, these were hardly grass-roots affairs. Similarly, Philadelphia could point to its exemplary housing programs during the 1950s; rather than clear-

ing huge tracts of land for monolithic high-rise public housing projects, early official policy had decided more in favor of rehabilitation (with rents subsidized by the Housing Authority) and infill housing.

The two housing paradigms for low- and moderate-income families were East Poplar and Eastwick, low-rise redevelopment areas in two city ghettos. But they never fully reached their projected size, nor did they begin to solve the problems of housing the poor. Today, a large number of Philadelphians, it is estimated, live in substandard housing; 25,000 houses have been abandoned.

Where too many paths cross

If one had to pick a situation right now that embodied all the conflicting planning ideals, assumptions, and forces at work in Philadelphia, Market Street East is as good as any place to start. Once the principal shopping street of Philadelphia (and the major east-west axis William Penn designed to intersect his north-south Broad Street axis), Market Street fell into serious decline during the 1940s and 1950s. While the proposals for its future cropped up in the 1947 exhibit, the area was not designated for redevelopment until 1963. Its redevelopment boundaries extend from 7th Street to City Hall, and from Arch Street to Walnut. Skidmore, Owings & Merrill, San Francisco, drew up a plan for the Redevelopment Authority comprising a five block retail mall with 6.5 million sq ft of office space, a new 5000-car garage and commuter rail tunnel plus numerous other transportation connections. The main pedestrian walkway would be glazed and pushed one level below grade—a favorite notion of Bacon's. Later, Bower & Fradley took over as coordinating architects and designed the first office building, 1234 Market in 1974, to link Daniel Burnham's John Wanamaker's Department Store with Howe and Lescaze's PSFS. They are also architects for the 215,000-sq-ft Gallery, with its 200,000-sq-ft three-level shopping mall, that the Rouse Company is now building next to the new Gimbel's.

It is hoped the emphasis on shopping fa-

cilities will begin to spur retail business downtown, reinstating Market Street as the shopping magnet it once was before the advent of the suburban shopping center.

But several planning premises are being held up to scrutiny right now by communities north of Market Street and by preservationists. The stickiest issues focus on the commuter rail tunnel. Conceived to connect the commuter train lines of the Reading and Penn Central railroads, the tunnel will burrow underground along Market, terminating at Suburban Station. With this hook-up, the Reading Terminal station, a marvelous piece of eclectic architecture designed by the Wilson Brothers in 1893, would no longer be needed. Nor would there be room for the Reading Market—a large old farmers' market dating from the 1860s. Planners now contend Reading Terminal and Market will definitely *not* be torn down as originally planned, claiming that the underpinnings for the tunnel can be installed easily enough.

The placement of the Reading Terminal on the National Register of Historic Landmarks last year now means that its proposed demolition would have to be approved by the federal government before any federal monies were released for the tunnel. As private planners John Foote and Joseph Stillman both pointed out in a report to the Philadelphia Partnership (a private citizens' group) in 1975, the tunnel and the whole Market Street East infrastructure involve some rather complicated financing. The RDA, Department of Public Property, UMTA, and the Southeast Pennsylvania Transit Authority (SEPTA), and private developers are all enmeshed in a financing scheme that involved HUD, DOT, state, city, and private funds. The commuter tunnel awaits renegotiation of contracts between local and federal government, with many critics fearing the city will get stuck with inevitable cost over-runs.

Another controversial issue concerns the use of federal Neighborhood Development Program funds for Market Street East. The HUD NDP funding was passed in 1969, and replaced by the Community Development Special Revenue Sharing pro-



Harris-Davis

Reading Terminal and Market.



Market Street (1234 Market on left).



Albion Strobil

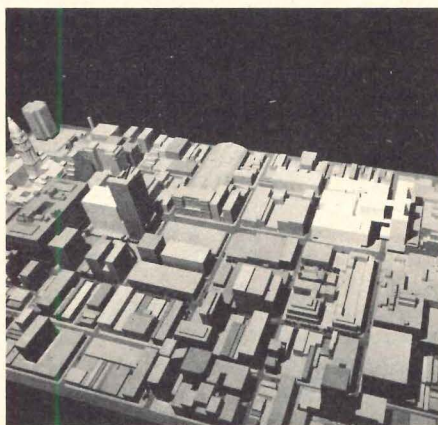
Chestnut Street Mall.

gram in 1975. It means more competition among neighborhoods for this money. Politically, Market Street East has high priority. But should it?

Another thorny question revolves around the automobile and Market Street East. Although Bacon wanted to separate people and cars on different levels, he still accepted the presence of the car in the city ("a losing battle"). Thus the Vine Street Expressway and South Street Expressway were projected to run east and west, while the Schuylkill and Delaware (Interstate 95) would extend north-south along the rivers. The Vine Street Expressway will bring shoppers, via car and bus, a few blocks north of the Market Street East project. Accordingly, the back (north side) of the Market Street spine in the original scheme is virtually one big linear garage for 5000 (count 'em) cars.

But ramps are required to get the cars from the expressway to the garages. As proposed, one ramp would cut through Reading Terminal, another would slice through the city's Chinatown district. Needless to say, the Chinatown community has risen to arms. In order to mollify neighborhood opposition, the city has drawn up an urban renewal plan for the area, and has applied for \$2.4 million in federal funds for site improvements and in-fill housing. Land is currently being acquired for urban renewal, but a strategy for developing the sites and selecting architects has yet to be conceived. The community still remains unconvinced that traffic generated by the commercial development and the expressway won't affect their environment. They might be right.

Since 1968 and the inception of the Neighborhood Development Program, citizen planning participation has been required by law. So Chinatown residents meet frequently with one of the city's area planners to voice their concerns. The City Planning Commission, led by Executive Director John Mitkus and assistant director Craig Schelter maintains its support for grassroots representation, and argues that planners no longer assume urban renewal will guarantee Nirvana.



Model of Market Street's Gallery in construction.

Like many other cities, Philadelphia is not only process-oriented, it is pinching pennies. While its fiscal problems are not out of hand, center city property taxes will be going up. The likelihood of early construction for Market Street East's remaining seven office buildings dims daily, what with 3.2 million sq ft of office space on the market right now. Nevertheless, planner Schelter reports that 1.2 million sq ft of office space in the city was leased last year, and that Chestnut Street leasing is picking up since its transformation by architects Ueland & Junker.

The portion of Chestnut St. between Eighth and 18 St is now a "mall." Buses still travel its length, but pedestrian sidewalks have been widened 6 ft, with newly designed seating, street signage, phone booths, etc. But like other parts of Philadelphia, the mall represents a compromise between business interests and design professionals. Businessmen finally agreed to a mall, but wanted to make sure not too much seating (encouraging loitering) was provided. The lighting and signage seems to have been made overly aggressive in design, as if to make up for this lack.

So, while the mall still looks like a street closed to cars, planners expect that warm weather and more planting will bring out the people.

Which brings up a curious question that is beginning to be apparent in other cities.



Harris-Davis

Do the streets of Philadelphia have the pedestrian density to keep all those malls, underground concourses, above-ground walkways, and street-level pavements bustling with activity? Yes, *if* the city continues to grow in population or attracts more visitors (no problem this year).

Bring back the Chinese Wall?

Funny Question. But some of the criticisms of Philadelphia's brand of planning imply just that (and more). Actually, the railroad tracks may not have been so hot, but the wall was designed by Frank Furness.

Advocacy architects rightly argue that Bacon should have attempted both physical *and* social planning, with both grass roots *and* blue-blood citizens' participation. Or that he should have concentrated on the north-south axis (where the ghettos are) as much as east-west direction. Or he should have been more open.

Nevertheless, to those out-of-towners who view Philadelphia with a fresh eye, it still represents a fairly cohesive example of urban renewal and redevelopment. And unlike many other cities, Philadelphia can be traversed on foot. You may not like all the architecture along the way, but you do have options. Yet one sees quite clearly who Philadelphia was planned for: Architecture historians, peer-group professionals, out-of-towners, businessmen, city agencies, and the rich. [Suzanne Stephens]

From sodhouses to PSFS

Walter Kidney

A survey of Philadelphia architecture from the 1680s to the 1950s shows it to be one of America's richest and most impressive urban achievements.

When Charles II made William Penn the Proprietary of a slice of North America in 1681 both were well satisfied, Charles because he was paying off a debt to the Penn family cheaply, William because he wanted to found a colony where the Quakers and all other religious sects could live together in harmony, or at least without throwing each other into jail. He conceived the first city of his new colony as a "greene Country Towne," spacious, healthy, and reasonably fireproof, with shady avenues and houses set in the midst of gardens. He and Thomas Holme, his surveyor, evolved a plan for a 1280-acre city, the center city of modern Philadelphia, running between the Delaware and Schuylkill (pronounced Skookil) Rivers, with five public squares: a new-town plan not basically different from those of Spanish America or indeed Hellenistic Ionia.

Penn's somewhat Wrightian vision was quickly frustrated; shipping was too important, and his conception of a tree-lined waterfront yielded to a fringe of wharfs, warehouses, and taverns that stretched beyond the city limits into the Northern and Southern Liberties, not intended for such heavy settlement. Behind the waterfront the first big "squares," 425' x 500' or more, were soon subdivided by alleys and were built up closely with merchants' houses, mariners' houses, and stores.

The Colonial Period

The first families of Philadelphia had, as their first homes, sod houses like those of the Dakotas in the 1870s. From these they moved to half-timber houses, but the presence of excellent brick clay in town and abundant fieldstone out of town encour-

aged the masonry construction so common in the region. A characteristic center city surface evolved, Flemish bond with hot strawberry-colored stretchers and headers glazed blackish-green from exposure to the fire. Out Germantown Pike the local stone, a silver-gray micaceous schist, was preferred. The pent eave, a miniature roof that divided the lower and upper stories, helped emphasize the masonry mass (illus. 1).

Such sturdy simplicity, congenial to Quakers, did not last, however. A small Church of England colony arrived early and quickly grew, all the more so since young Quakers, seduced by the ceremonious Anglican worship and showy life style, began to sidestep into the elegant faith of their parents' oppressors. A wordly life style demanded a less simple architecture, and pent eaves disappeared, while builders, working from guides published in London, carved and assembled fine doorways, cornices, and dormers, then went on to produce elegant woodwork for the interiors, where fine plasterers soon joined them (illus. 2). The decorative material par excellence was carved and painted wood, as in the spire, after a Gibbs design, at Christ Church (illus. 3).

The architect arrives

Since 1724 center city design had been almost a monopoly of the Carpenters' Company, and as the 18th Century drew on the Carpenters' designs began to look decidedly dated by the standards of London, or even of Boston once Bulfinch started work there. Their complacency was finally rattled in 1789 when Benjamin Latrobe, who had arrived from England a few years before, designed the Bank of Pennsylvania. Some of the innovative features of this building had appeared in isolation, but suddenly the Carpenters were confronted, in a single work, with complex massing, Greek ornament, a stone exterior, round rooms, true masonry vaulting, and a bold color scheme. Not only were their own works—brick boxes with decorative touches—relegated to the past, but as a further aggravation Latrobe insisted



1 Green Tree Tavern, 1748; designer unknown.



2 Cliveden, 1767; Jacob Knor, mason.

on supervising the construction as well as making pretty drawings on paper. The Carpenters and most of their clients had been well content with package deals in which design and supervision services had been hidden costs, and Latrobe's intransigence was unpopular with both.

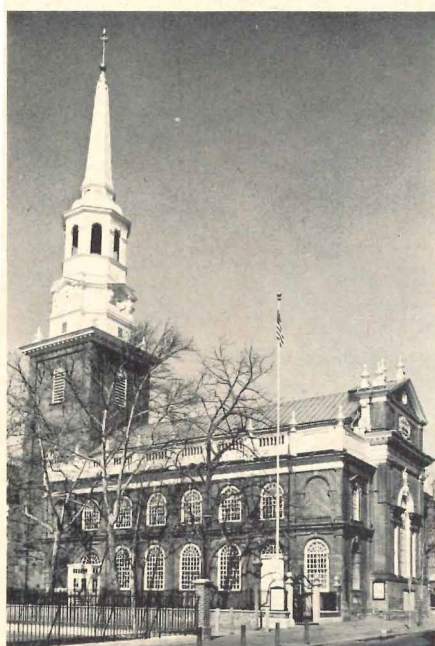
By 1830 the architect, though shaky of status, was in Philadelphia to stay. William Strickland, in 1818, had imitated the Parthenon in marble for the Second Bank of the United States. John Haviland, an English immigrant, had produced three Grecian works of taciturn beauty that remain—the Deaf and Dumb Asylum, the remodeled Walnut Street Theatre, and the Franklin Institute—as well as the more delicate, Ionic St. Andrew's Church. He had also produced the pleasant Egyptian façade now framed by the new Penn Mutual building (see p. 72); and in Eastern state Penitentiary, a castlelike complex, he had created perhaps the first work of American

Author: Walter Kidney is a free-lance writer and editor and a former associate editor of *Progressive Architecture*.



4 Founders' Hall, Girard College, 1833–47; Thomas Ustick Walter.

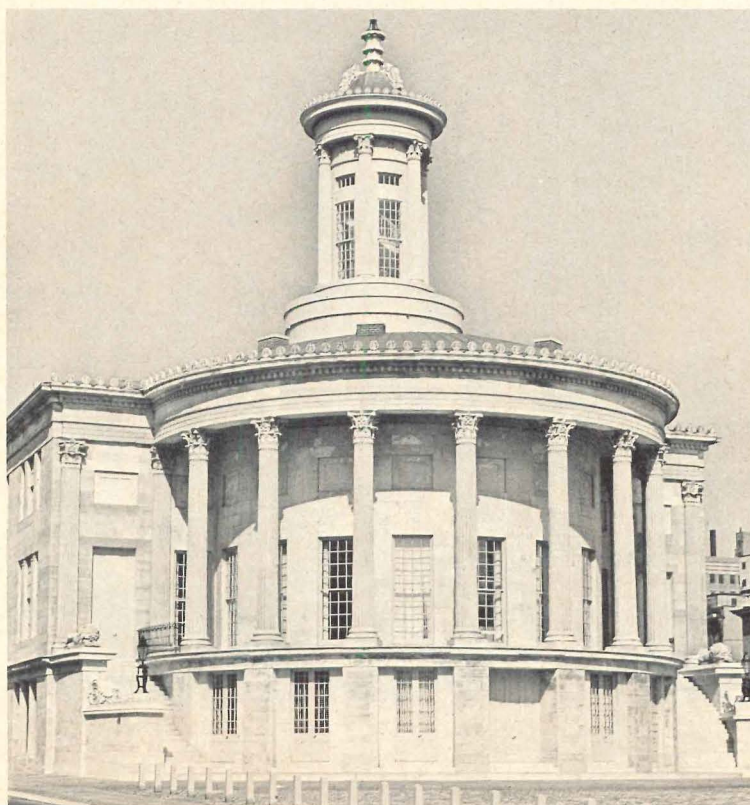
3 Christ Church, steeple, 1771; Robert Smith.



5 Merchants' Exchange, 1832; William Strickland.



6 Athenaeum, 1847; John Notman.



architecture studied in Europe—though for its solitary-confinement plan rather than its elevation. Thomas Ustick Walter, whose later works were to include a collaboration on City Hall and the wings and dome of the U.S. Capitol, had produced the first buildings of Girard College (illus. 4). Founder's Hall, a piece of gigantism that did violence both to Girard's intentions and the requirements of a school, dominated his ensemble. Strickland did vastly better at the Merchants' Exchange (illus. 5), a beautifully scaled building combining an exchange room, offices, and shops.

Thus it was that, around 1830 when builders were erecting mile after ruthless mile of red brick featureless houses from which the Colonial liveliness of surface had been eliminated, splashes of white marble and light stucco, porticoes, and low-pitched pediments were appearing to punctuate the long red street-walls. Almost all of the new architecture was Greek Revival, and despite the temple form, which was used to the point of absurdity, it was well suited to an age not heavily industrialized as yet but needing to build quickly. The Greek Revival architect could get by very well with good proportion alone, relieved by a very small amount of well-calculated detailing.

The Victorians

Latrobe, who had introduced the Greek Revival to America in the Bank of Pennsylvania, introduced the Gothic Revival to Philadelphia at Sedgely, a Schuylkill River estate. This mansion—unsupervised by Latrobe, and botched—had a fairly sophisticated Regency plan but its Gothic was merely an affair of applied motifs. Nor were Strickland's Masonic Hall of 1808 and his St. Stephen's Church of 1823 any closer to true Gothic. Only Haviland's Penitentiary had, as it were, the courage of its convictions—an Awful Warning in the manner of Newgate. Full-blooded Gothicism—indeed, full-blooded Victorian eclecticism—came to Philadelphia with John Notman, a Scot who brought several new English fashions to the city. In 1845 at the Athenaeum of Philadelphia (illus. 6), a pri-

Philadelphia architecture before Kahn

vate membership library, he concealed superb Greek Revival rooms behind a brownstone, Italianate clubhouse façade in the manner of Charles Barry. Brownstone, quarried in New Jersey, appeared rather suddenly on the Philadelphia scene in the 1840s and signaled a change in the architectural climate. It was a dark stone that eliminated sharp light-and-shade contrasts and, at its best, a freestone that permitted elaborate carving. Walls, once positive design elements, became neutral backgrounds to window surrounds, doorways, and cornices that effloresced from them in an abundant and redundant proliferation of molding and carving.

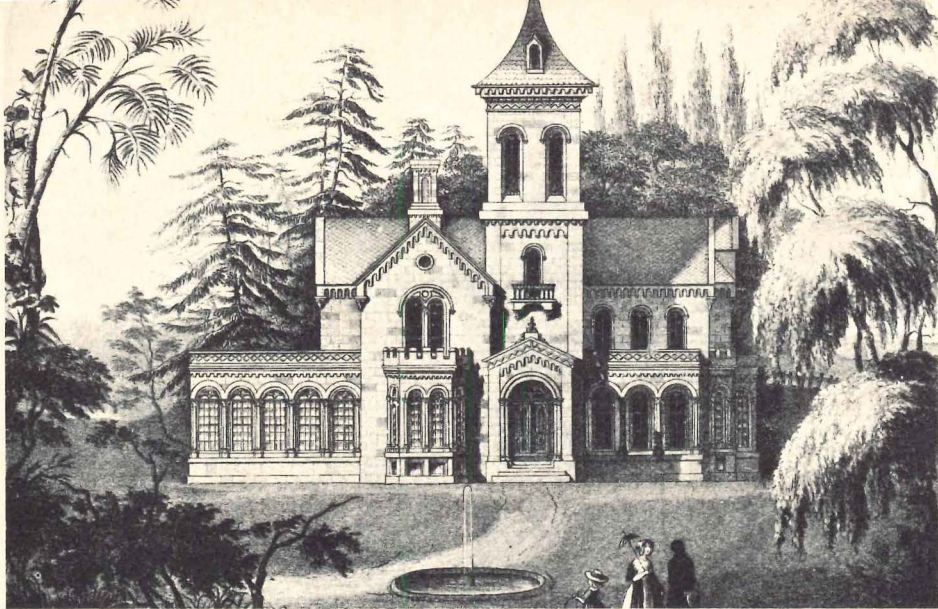
Commuter suburbs were beginning to develop at mid-century, and behind the pent-eaved houses of a century before rose cubical Tuscan villas and Gothic cottages. Samuel Sloan led in their design (illus. 7), and through his influential *Model Architect* of 1852 these forms appeared over the whole country.

After a slow start the westward expansion of the city had gained impetus in the early 19th-Century, and by 1850 Broad Street had been passed and was starting to shape up as the major north-south avenue Penn had intended it to be. In 1855 the Academy of Music decided to locate there. Its architect, Napoleon Lebrun, offered the directors the choice between a High Renaissance façade he had designed and a really good auditorium—they wisely chose the latter, and a rather industrial-looking brick front still conceals a gorgeously decorated auditorium with perfect acoustics. Later-comers to Broad Street preferred external magnificence if forced to choose. The Masonic Temple (illus. 8), designed in 1866, was an enchanter's castle in solid granite, but it took decades for its lodge rooms to reach their present, rather surrealistic, magnificence. The Union League Club was a brick-and-brownstone mansion. These and all other Broad Street performances were easily topped, however, by City Hall (illus. 9), under construction from 1874 to 1894. Covering all of Penn Square, the central square of center city, it was once the largest office complex in the world, a Second Empire extravagance in marble. Alexander Milne Calder, grandfather of the mobile man, devised an iconographic program with allusions to the arts and history of Philadelphia that are understandable enough, but went on to more esoteric symbolism and a totally baffling array of grotesques.

The Late Victorians

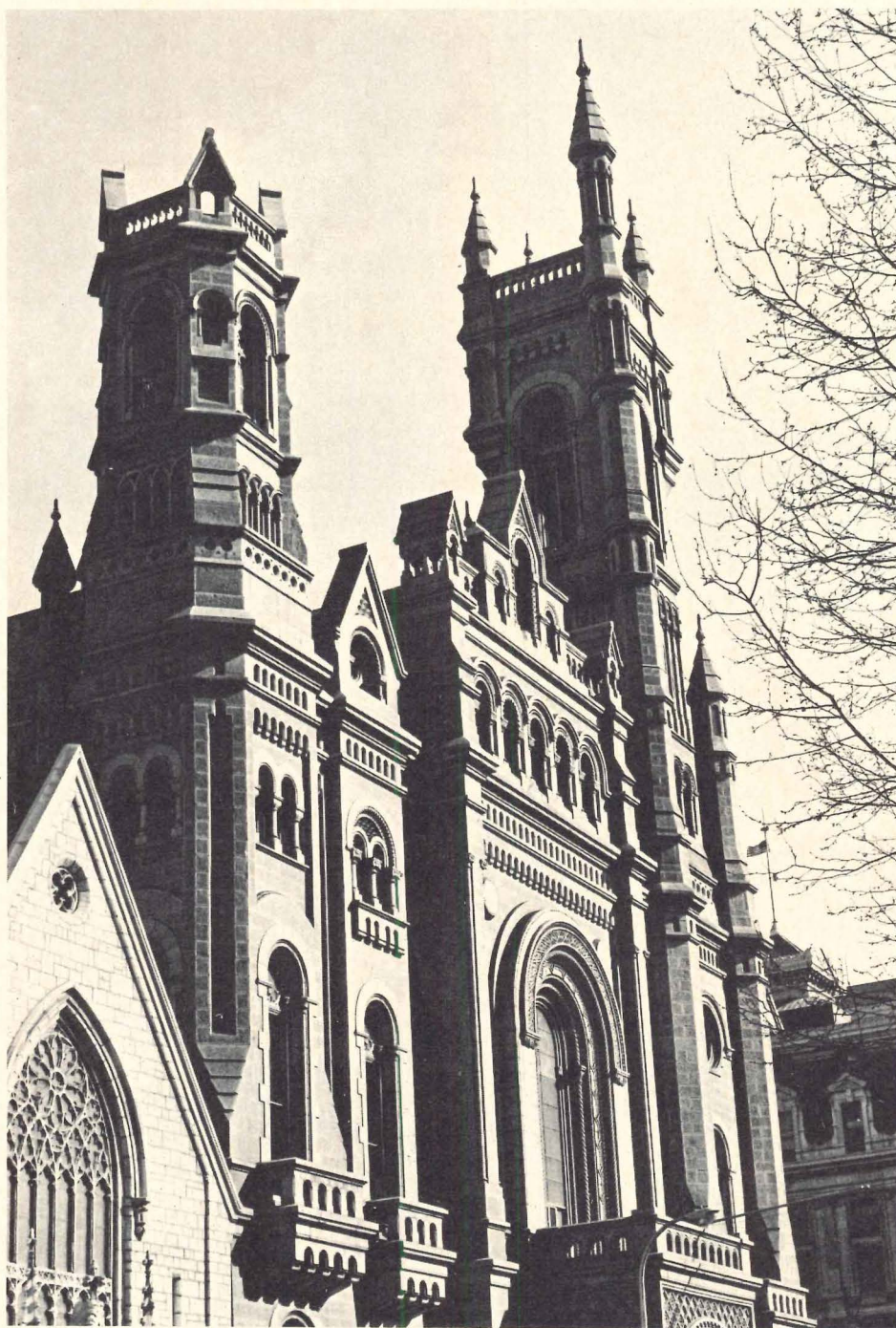
Toward 1870 hard edges and flush surfaces returned, and a planar, geometrical style set in. Ruskin, with his insistence on decoration integral with masonry structure, may have been influential, and so may the rationalists Viollet-le-Duc and Eastlake. Though there were no American editions of their works as yet, a taste arose for contrasting materials.

The leader in this geometrical manner



7 Bartram Hall, 1852; Samuel Sloan.

8 Masonic Temple, 1873; James H. Windrim.





9 City Hall, 1894; John McArthur, Jr. with Thomas U. Walter.

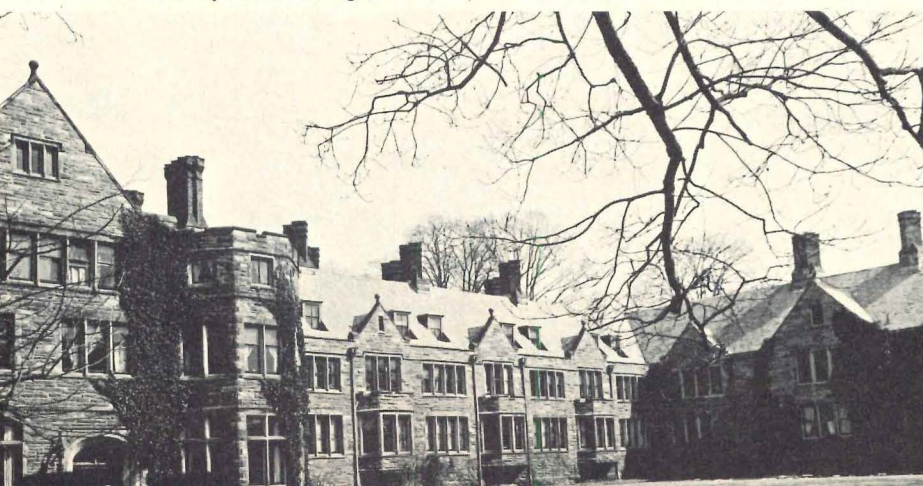


10 Academy of Fine Arts, 1876; Frank Furness.



11 Neil-Mauran Houses, 1891; Wilson Eyre.

12 Pembroke Hall, Bryn Mawr College, 1894; Cope and Stewardson.



was Frank Furness, whose macho Gothic mannerism was already mature in 1871 when he designed the Pennsylvania Academy of Fine Arts (illus. 10). Segmental Gothic arches, dwarf columns, vivid colors, craggy corbels and crockets appear already in this work and continued to appear, even at the Library at Penn in 1888, when the whole trend of architecture was against such things. What had happened to Philadelphia architecture in 100 years is shown by the case of the Library Company. Furness, commissioned in 1878 to do their new building, recollected the bland 1789 façade of the previous building in his design, but in a way that suggested that it had been subjected to a strange Victorian curse. Under pressure perhaps from clients, Furness eventually became marginally tamer, more classical, but never fully abandoned the bright red terra cotta and brick, the harsh contrasts, he enjoyed. The Wilson Brothers, who were more or less the court architects of the Pennsylvania Railroad, followed the prevailing styles of the day humbly, though they had one moment of glory at Broad Street Station in 1881. The heroic wrought-iron trainshed of Reading Terminal is also their work.

The Centennial Exhibition of 1876, held in the Fairmount Park recently created from the old Schuylkill River estates, was the last grand fling of mid-Victorian architecture. It was also the first exposure of the nation as a whole to design trends already evident in Boston and Newport. St. George's House, the pavilion of the British commissioners, was in a new, vaguely Merrie English, style called Queen Anne, and the Japanese, with a beautifully assembled pavilion and sales bazaar, introduced American artists to forms that sophisticates in England and France already knew. Exactly what happened in the 1870s is not yet clear, but ideas from England, Japan, and Colonial America first modified, then overwhelmed, the stern mid-Victorian forms, fusing into a free-wheeling, Epicurean style in the process. This was most evident in homes of the well-to-do.

Wilson Eyre, who began practice in 1881, was the poet of the new manner (illus. 11). After a rather stiff and imitative beginning he quickly evolved a personal style in which historic motifs were mere spice in compositions of extraordinary mellowness. He evoked a past, vaguely conceived, that was made to yield a consistent beauty it surely never would have had, had it ever actually existed.

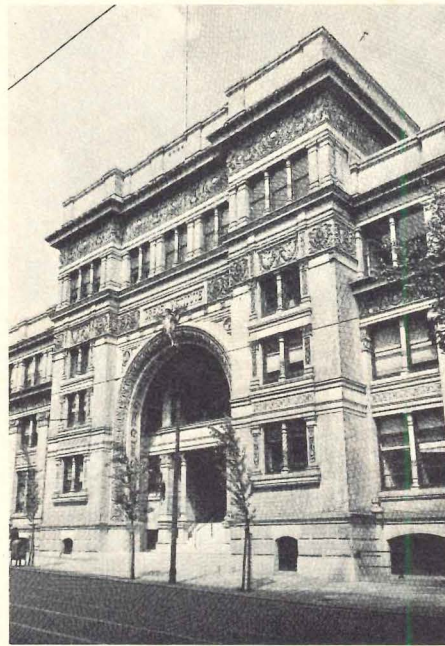
Cope & Stewardson had a more pedigreed style for the college buildings that were their specialty. Denbigh Hall at Bryn Mawr, designed in 1891, was the beginning of that correct academic Tudor that was to be adopted, on an if-not-why-not basis, in American colleges for the next 50 years, and this they continued to use at Bryn Mawr (illus. 12) and at Princeton. For Haverford, on the other hand, they supplied a beefy Colonial, for Penn a jolly Jacobean and a rather stodgy Carolean, and for the Overbrook School for the Blind, no one knows why, a Mexican Baroque.



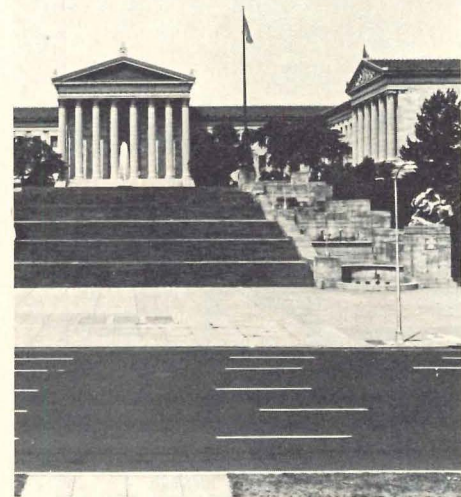
13 University Museum, 1893; Wilson Eyre, Frank Miles Day, Cope & Stewardson.

Eclecticism

Eyre, Cope & Stewardson, and another architect of this hedonistic period, Frank Miles Day, collaborated on the University Museum at Penn (illus. 13) in 1893, producing a kind of Lombardic monastery, beautifully detailed but revealing at the same time the inherent shortcomings of the new architecture under city conditions. It was really a suburban building set into a growing campus, and was bound, in time, to be hopelessly outscaled. Drexel Institute, building its first home to a Wilson Brothers design nearby (illus. 14), was truly urban: a big box of rather sloppy charm, with a rather squashed Ionic order masking a Grand Hotel interior with the veined marble and intricate iron work that were the 1890s' drugs of abuse. Such big boxes, which tended to get broader and taller over the years, were what the city, with its concentration of people, demanded. And, as eclecticism turned architects increasingly into scholars, the easy-going classicism of a Drexel yielded to more precisely rendered styles which, in Philadelphia, tended to be rather dull.



14 Drexel University, 1890; Wilson Brothers.



15 Museum of Art, 1928; Charles Zantinger, Horace Trumbauer, and Charles Boire.

Early Twentieth Century

The Benjamin Franklin Parkway, laid out around 1905, promised at first to take over Broad Street's role as the showplace of the city, a Champs-Élysées cutting across the old grid to the northwest. Alas, it became much driven but little walked, for its institutions (illus. 15) were placed for show rather than accessibility and remain alien, scattered presences in what is left of the older neighborhood.

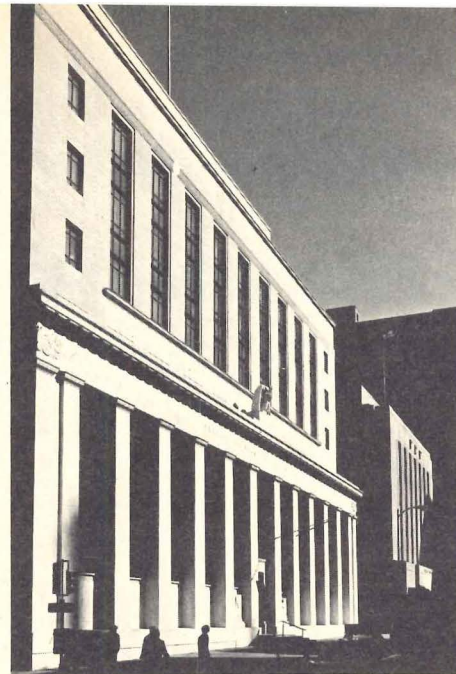
The triumphs of the early 20th Century continued to be in the good residential neighborhoods. The Main Line commuter service of 1873 had brought a hinterland of grand estates into close contact with downtown; Henry Houston, by bringing the railroad to Chestnut Hill in 1884 and building there, had given its development a huge impetus. His son-in-law George Woodward did even more, building simple, beautiful Colonial and Cotswold houses for rental, on moderate terms, to hand-picked tenants (illus. 16).





17 High Hollow, 1916; George Howe.

19 PSFS Building, 1932; George Howe, William Lescaze.



18 Federal Reserve Bank, 1935; Paul Cret.

Of the several firms that specialized in houses for Chestnut Hill (illus. 17) and other wealthy neighborhoods none was more respected than Mellor, Meigs & Howe, and yet George Howe, in the late 1920s, was a discontented man. A growing sense of unreality came over him, a desire for a fresh start. His fellow-Eclectics had been aware of pressures for change for some time, but reacted with resentment or resignation. The Penn architectural school began to burn out pallid Art Deco designs, and practicing architects began to attempt compromises between old preferences and new ideas. No one compromised more successfully than Paul Cret (illus. 18), the famous architect and professor who designed the Neoclassic anchorages for the Benjamin Franklin Bridge, and who designed Modernistic interiors for luxury trains before turning to modernized classicism and Tudor imitation in the Folger Shakespeare Library in Washington.

Howe positively wanted to be modern, and formed a partnership with William Lescaze, a Swiss whose International Style apartment designs had been attracting attention in New York. The famous little building of 1929 for the Oak Lane Country Day School is now gone, but their masterpiece, the PSFS Building (illus. 19), remains, somewhat altered, as a classic of modern architecture in America. Alas, it was one of the few good modern buildings to be erected in Philadelphia before the mid-1950s; the Depression, the War, and local wavering between a bloodless eclecticism and a modernism of the most negative sort vitiated Philadelphia architecture until the rather sudden rise, some 25 years ago, of the so-called Philadelphia School under Louis Kahn, and later under his spiritual followers, when it once again became truly creative. □

Photography: Teitelman/Longstreth, except illus. 1, 2, courtesy City of Philadelphia; 7, Walter Kidney; 13 Lawrence S. Williams, Inc.; 14, Photo-Arts; 15, D. Morton; 19, courtesy PSFS.

Philadelphia's phantom school

Robert Coombs



Gaudy, raucous, and a local cause celebre, Ueland & Junker's Mummer Museum is the quintessential, tight-budget decorated shed.

Is there a Philadelphia School like the famous Windy City's? Or have hard times and style squelched a prophecy?

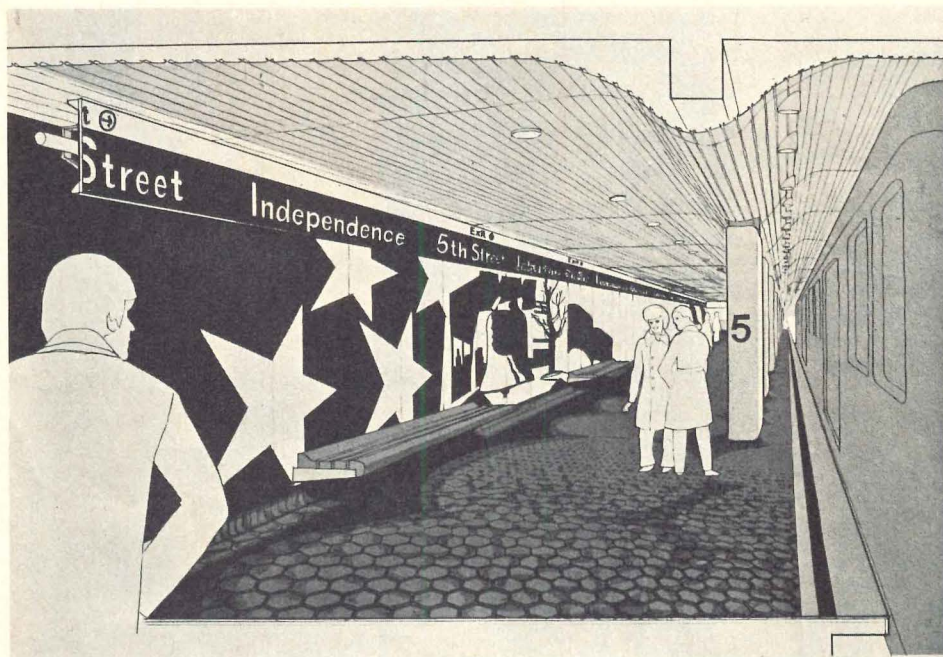
With much fanfare *Progressive Architecture* proclaimed the birth of the Philadelphia School in April of 1961. The Philadelphia School's powerful gospel was going to have as much impact on American architecture as the Chicago School had in the 1890s.

P/A dubbed Louis I. Kahn the guiding spirit of the School, with Robert Venturi, Romaldo Giurgola, Robert Geddes and two engineers, Robert Le Ricolais and August Komendant as its apostles. At that time, all were teaching in Dean G. Holmes Perkins' Division of Architecture at the University of Pennsylvania.

Kahn made converts in New Haven as well as Philadelphia, for he had been teaching at Yale, where former Philadelphia partner George Howe had been head of the Yale's Department of Architecture. Later Robert Venturi reinforced the connection by teaching at both schools. Thus, by 1967 the infamous Yale-Penn axis was firmly established and proceeded to scandalize the orthodox architectural faithful.

P/A did not envision the Yale-Penn axis nor Venturi's emergence as the major apologist for an architecture movement that was extraordinarily attractive to students and young architects in the 1960s. Kahn, Venturi, Denise Scott Brown and Charles W. Moore (at Yale) gradually opened up a Pandora's box of analytical-historicist architecture at approximately the same time that architectural semiology was getting up steam in Europe. Increasingly in the late 1960s, meaning in architecture thus became the center of quasi-theological disputes among architectural

Author: Robert Coombs, an architect and architectural historian, writes frequently on architecture and design. He was the editor of *Perspecta* 13/14, and an associate editor of *The Architectural Forum*.



Their Fifth Street-Independence Mall station renovation, is Amtrak modern decked out in Bicentennial supergraphics. The station will be completed mid-spring.

literati. Kahn's work and Venturi & Rauch's architecture, pronouncements, and writings were and are central to the whole question of what architecture wants to mean. Basically, Venturi & Rauch distrusts attempts to draw it into abstract semiological games; it thinks, with cause, that others subvert its ideas to prove personal theories.

Going out on a rather gnarled limb, one could broadly define the Philadelphia brand of meaning in architecture as "associationism." Coined by George Hersey in his *High Victorian Gothic* (1973) "associationism" characterizes the conscious effort of architects to endow individual buildings with personality (and possibly gender) and to cast them into social or dramatic relationships with the observer, an endeavor with its own history. In 1790, Archibald Addison (in his *Essays on the Nature and Principles of Taste*) had propounded the concept that buried associations are brought forward in the mind by

the sight of an object. While Addison concentrated on buildings as informational constructs, J.C. Loudon carried the theory a step further in his *Encyclopedia of Cottage, Farm and Villa Architecture* (1833). He transformed buildings into three dimensional signs, and came close to saying the function of "style" was pure communication. During much of the 19th-Century and our own as well, architecture as a trigger for associations dominated revivalist design. (Whether these were associations of a picturesque or moral character was the central dispute of British architecture in the 19th-Century, as Colin Rowe has pointed out.) Kahn and Venturi see buildings as loaded with associations which are decidedly other than purely formal. But are Kahn's associations Venturi's?

Kahn's associationism was covert, embedded in the Beaux-Arts principles which he radicalized. Like the psychologist Carl Jung, Kahn sought "beginnings," primordial images, dominants, and archetypes.

He also spoke of chaos and order, duality, the opposition of light and darkness, unification of opposites, centrality, and radial arrangement according to a quaternary system. His dialogues with materials and forms, of "what they wanted to be," was a poetic search for archetypal associations.

In *Complexity and Contradictions* by Robert Venturi and *Learning from Las Vegas* by Venturi, Denise Scott Brown, and Steve Izenour, the role of urban architecture and its meaning are debated (consciously or unconsciously) with A. Trystan Edwards' *Good and Bad Manners in Architecture* (1945). While Edwards sought a return to the good manners of 18th-Century street design, Venturi, Scott Brown, and Izenour dissect and celebrate American vernacular "bad" manners and their implications for our pluralist society. To them architecture forms an overt sign or collage of signs expressing the complexity of this society.

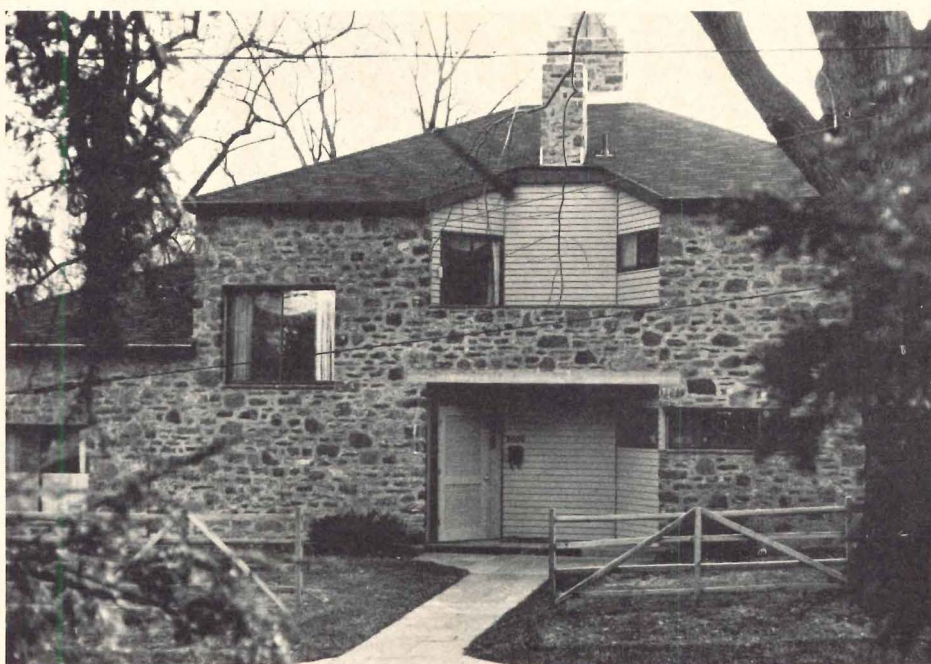
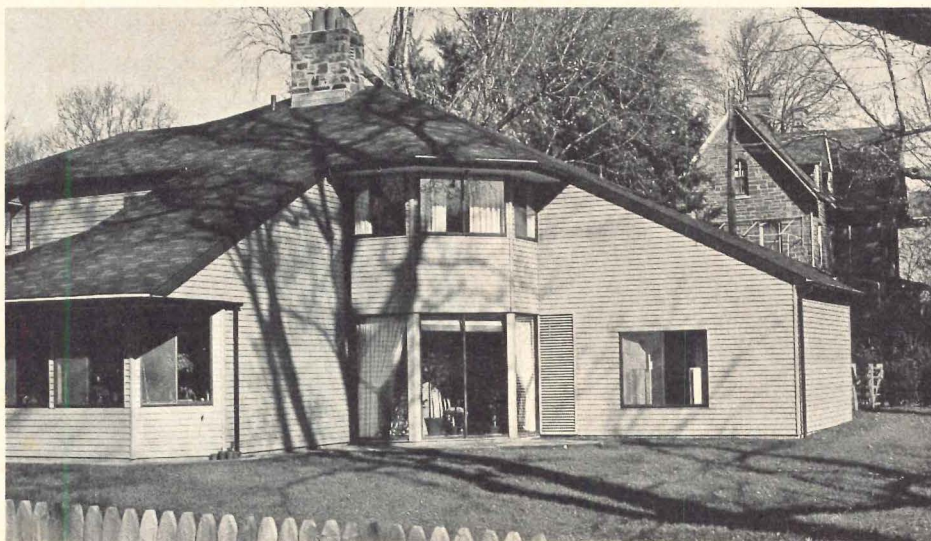
No matter how different Kahn's covert symbolizing and the Venturis' overt sign-making appear, they both say that architecture is enmeshed in the context of each civilization's self-images, illusions, and memories.

With suave *bella figura*, Romaldo Giurgola, who taught with Kahn at Penn, has taken a less extreme position than the others. Many of Kahn's concepts—and not a few of the International Styles—have been combined in Mitchell/Giurgola's work within the constraints imposed by the physical context site configurations of its projects.

Another architect who taught at Penn with Kahn, Robert Geddes, today seems far removed from his earlier architectural leanings. Geddes has gradually embraced Le Corbusier's architectural philosophy over the years. No longer at Penn, Geddes is now Dean of the School of Architecture and Urban Planning at Princeton and keeps offices (Geddes, Brecher, Qualls, Cunningham) in both cities.

While Kahn's and Venturi's firms have figured prominently in the American architectural scene, what has been their impact on Philadelphia? Has the Philadelphia School imprinted its image on the city as the Chicago School did on the Windy City? Has it become the architectural New Jerusalem P/A predicted?

Ed Bacon may have trumpeted down Philadelphia's Chinese Wall, but that did not have the same effect as the Chicago Fire. Sullivan and Burnham & Root got to build to their heart's content in the Loop. Kahn, Venturi & Rauch, and Mitchell/Giurgola have not been so lucky in Philadelphia. Ironically, Venturi & Rauch's sole statement downtown is the Franklin-Court or "Ghost" House, (see p. 69). Mitchell/Giurgola has been a bit luckier, for this year two of its skyscrapers have been completed in center city (see p. 72). The majority of Kahn's Philadelphia buildings are (e.g. Richards' Medical Research building, Mill Creek Housing) are outside of its center and his one major contribution to downtown, the AFL/CIO Medical Cen-



In Chestnut Hill, Ueland & Junker set fieldstone walls, the signature material of that posh Philadelphia suburb, against Shingle Style rendered in aluminum siding.

ter was torn down (for road construction) in 1973. Considering the number of buildings that Adler & Sullivan and Burnham & Root constructed in the Loop, the Philadelphia School score isn't that good. Others got the fortune out of the cookie after the Chinese Wall came down.

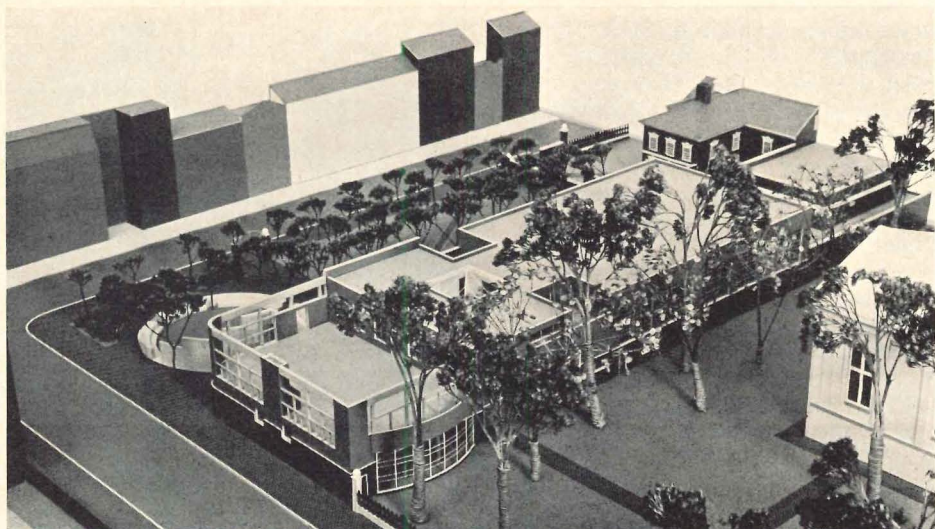
Daniel H. Burnham had the exquisite pleasure of seeing his Chicago Plan of 1909 become a partial reality. Today, the 20 miles of lakefront parks, lagoons, and beaches he envisioned are a fact. How about Kahn's studies for rebuilding the center of Philadelphia? They remained studies. The city fathers just as easily dismissed his sketches and thoughts for a Bicentennial boulevard and pavilions. Neither Kahn nor Venturi & Rauch have had a strong impact on official planning in Philadelphia, although their input at Penn has shaped planning in other American cities.

Today Kahn is dead, Giurgola is in New York, and Geddes in Princeton, leaving only Venturi & Rauch, which works mainly

outside of Philadelphia, and a few other survivors of the epic period. Louis Sauer bears an affinity with them and has affected the younger generation of Philadelphia architects by teaching them how to execute well-designed housing on minimal budgets.

Richard Wurman, a former student-disciple of Kahn, has moved his firm Murphy Levy Wurman toward architecture as media. He takes "meaning in architecture to its most literal level: the environment must be clear, decipherable, and accessible to the public, he contends. His work thus proceeds on various levels of legibility including archetypal symbolic forms (see p. 40).

Today, Philadelphia architecture is in the hands of a middle generation. Firms like Bower & Fradley, Ewing Cole, Erdman, Rizzio, Cherry, & Parsky, and Vincent G. Kling & Partners are doing the work that P/A assumed Kahn, Venturi & Rauch, Mitchell/Giurgola and Geddes, Brecher, Qualls, Cunningham would have done in



Elliot Kaufman

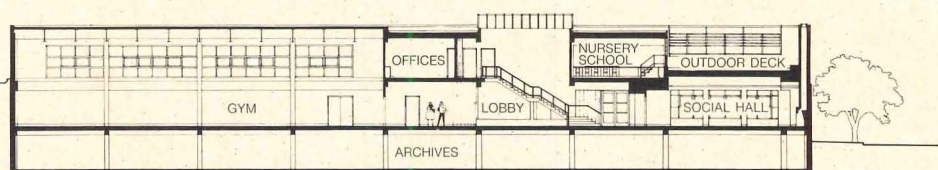
Friday Architects' Old Pine Street Community Center is an elaborate overlay of decorative complexities and contradictions on a relatively straightforward plan.

the heart of the city. Bower & Fradley, though linked to Penn, is not necessarily working in the vocabulary of Kahn or Venturi. Indeed it is moving around the great style smorgasboard, choosing from Corbusier, Mies, and Stirling just as much as from Kahn. Ewing Cole, Erdman, Rizzio, Cherry & Parsky is serving up cardboard Corbu with swirling ramps a la Busby Berkeley in its Federal Reserve Bank of Philadelphia just being completed on the mall. The regeneration of Philadelphia has not followed the pattern which P/A expected, for the middle generation of architects is not consistent in its design approach. It is not a unified language, but a linguistic polyglot.

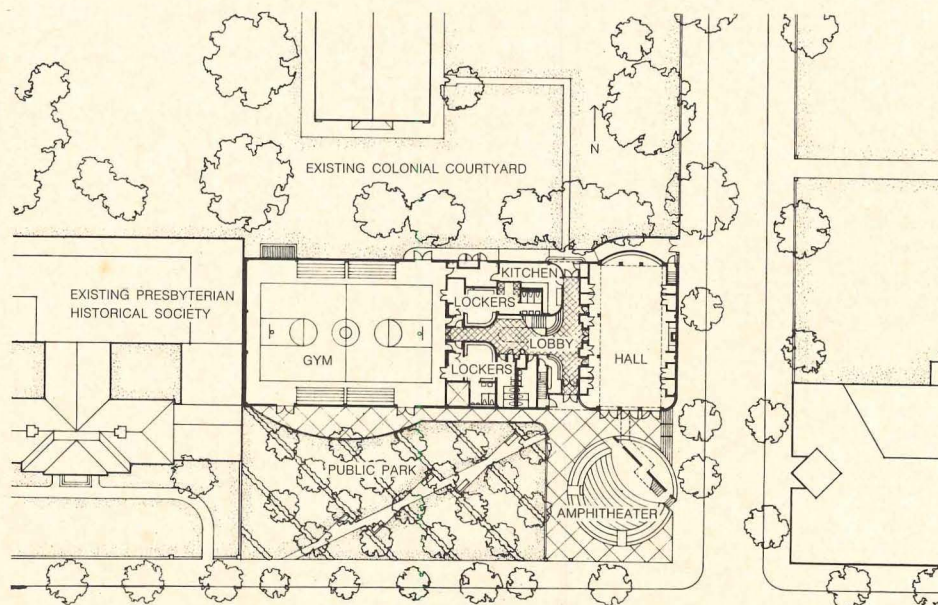
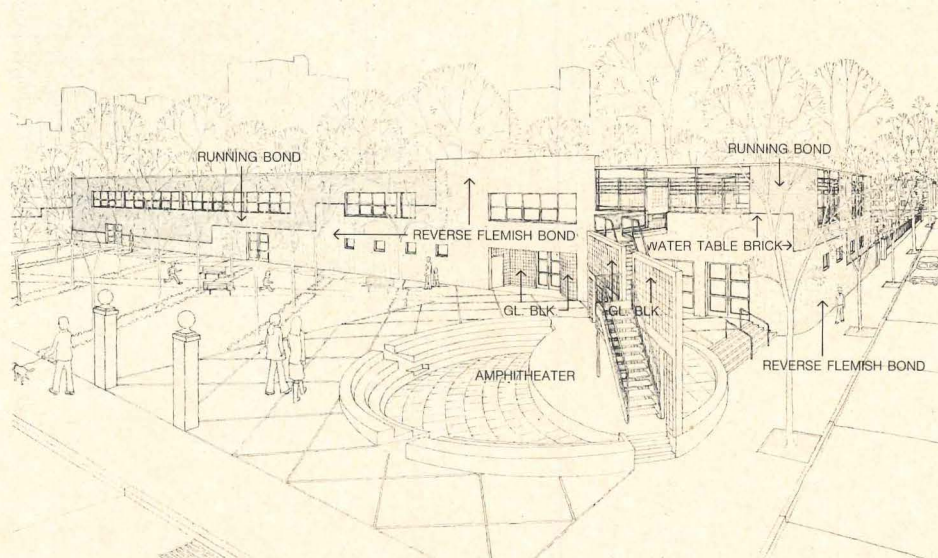
Does this mean that P/A's Philadelphia School was the figment of author Jan Rowan's fevered journalistic imagination? Not exactly. For if the middle generation has not kept the faith, the youngest firms have, but not in the way that he expected.

In this make-do economic climate very few can afford Kahn, perhaps only the Mellons and the multi-nations of this world. Local Philadelphia groups and organizations gravitate toward young architects, whom Venturi & Rauch in particular has influenced. Firms like Ueland & Junker, Friday Architects, and Baker, Rothschild, Horn & Blyth retain some of the 1960s activist spirit with their deep involvement in neighborhood community work. Their architecture reflects this concern as well as the attitudes of their mainly middle-class clients. The direct heirs of Kahn, Meyer & Pellecchia and David Wisdom, were working in his office at the time of Kahn's death. Meyers & Pellecchia is completing Kahn's work on the Mellon British Studies Center at Yale. David Wisdom Associates is completing the Assembly and Secretariat Buildings in Dacca.

Ueland & Junker preaches vernacular associationism a la Las Vegas with passion. Its current projects are the most visible examples of architecture as sign in Philadelphia today (see Mummer's Museum, p. 70). Its clients did not seek or want coolly monumental design. They got what they needed: hot architecture. Ue-



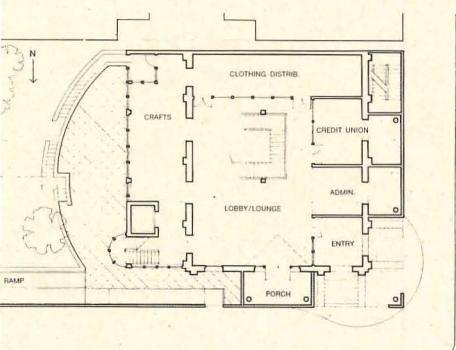
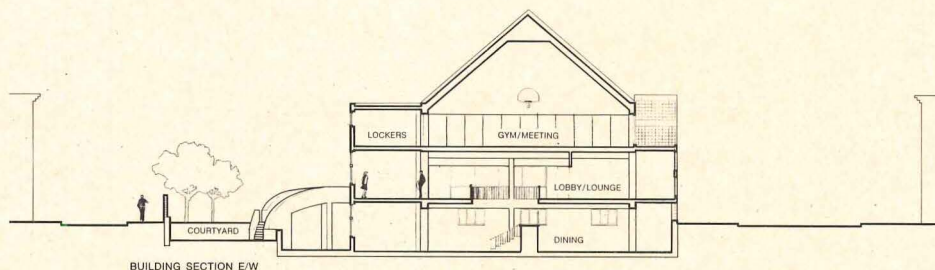
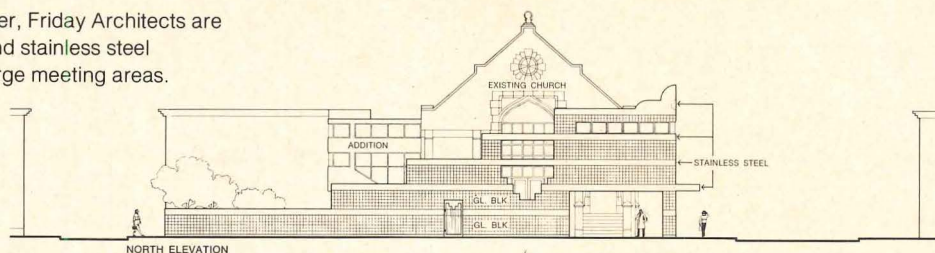
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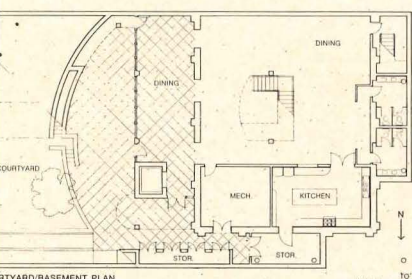
In the Grays Ferry Neighborhood Community Center, Friday Architects are wrapping a 1920s Tudor church in a glass block and stainless steel addition of the Main Street moderne variety to enlarge meeting areas.



Elliott Kaufman



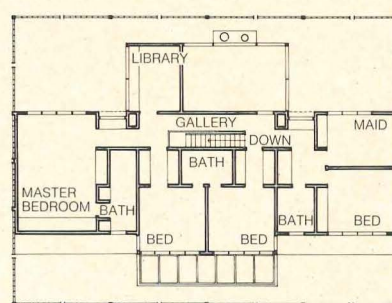
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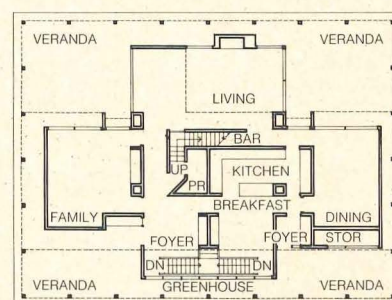
YARD/BASEMENT PLAN

land & Junker can tone it down, as its houses prove. But these also respond to what's around Philadelphia rather than nostalgia for the International.

Some of Friday Architects' current work reminds one of Venturi & Rauch's evocations of fleshy Deco/Corbu in the recent houses. There, the Venturis' have apparently looked at lesser-known French and Belgian architects of the 1920s and 1930s, with their penchant for gross brick, glass block, and full-paunch curves. Like Venturi & Rauch, Friday Architects converts this import into the American vernacular. Friday's archeological diggings bring back the white porcelain panels, ziggurat façades, and glass block of pre-war gas stations moderne for an accessible "associationism." Levinson, Lebowitz & Zaprawski plays it cooler, though reminiscing with Art Deco supergraphics in its latest commercial rehab Gimbel's warehouse on the Schuylkill. Joel Levinson's houses have a romantic warmth and love of materials that recall some aspects of the Shingle Style or

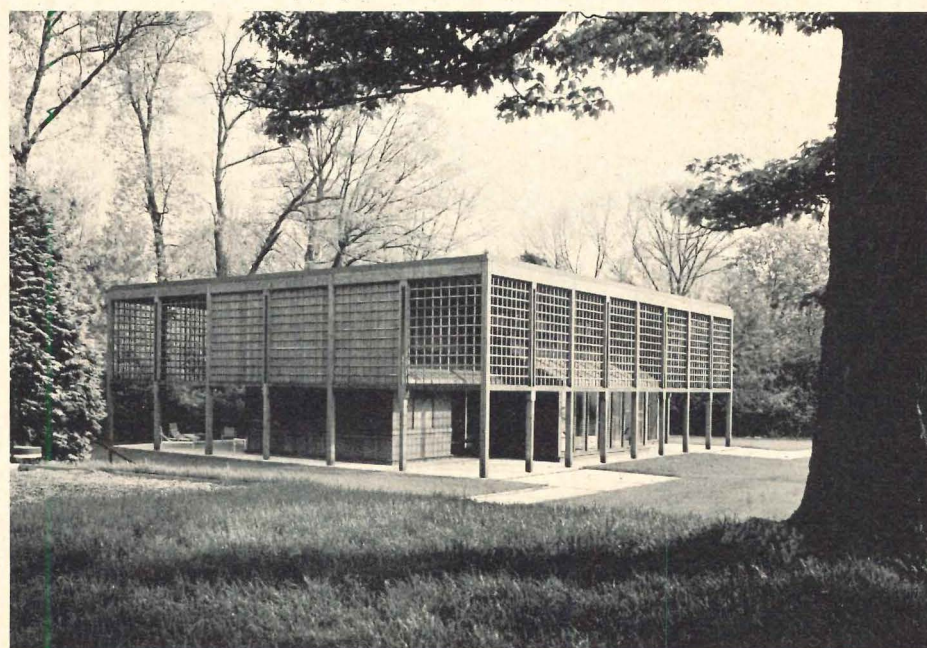
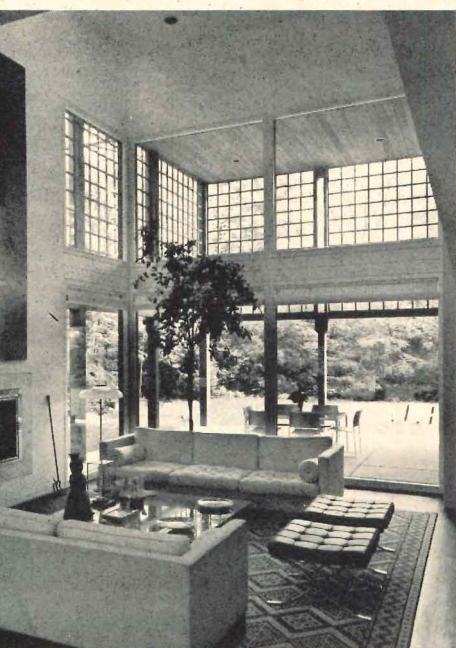


SECOND FLOOR PLAN



FIRST FLOOR PLAN

Joel Levinson's 1971 Arbor house in a Philadelphia suburb evokes late 19th-Century pergolas, and serves as a foil to nearby baronial halls.



Lawrence Williams

Philadelphia architects after Kahn

Greene & Greene's Architecture.

Baker, Rothschild, Horn & Blyth has become housing developer architects with the local vernacular tradition dominating its approach in both new housing and rehabs. This architectural entrepreneur firm promotes its practice based on its credibility as developers—and it sees its project built and sold in hard times.

Dagit/Saylor is one of the few young firms with larger commissions, mainly from Philadelphia Roman Catholic institutions. Its vocabulary is more in tune with Kahn than others of its generation, but as Mitchell/Giurgola alumni, it easily turns to The New York Five without losing its *sang-froid*. Without academic smugness or conceit, the work is suavely sage.

Progressive Architecture's School of Philadelphia did not gel in the sense of

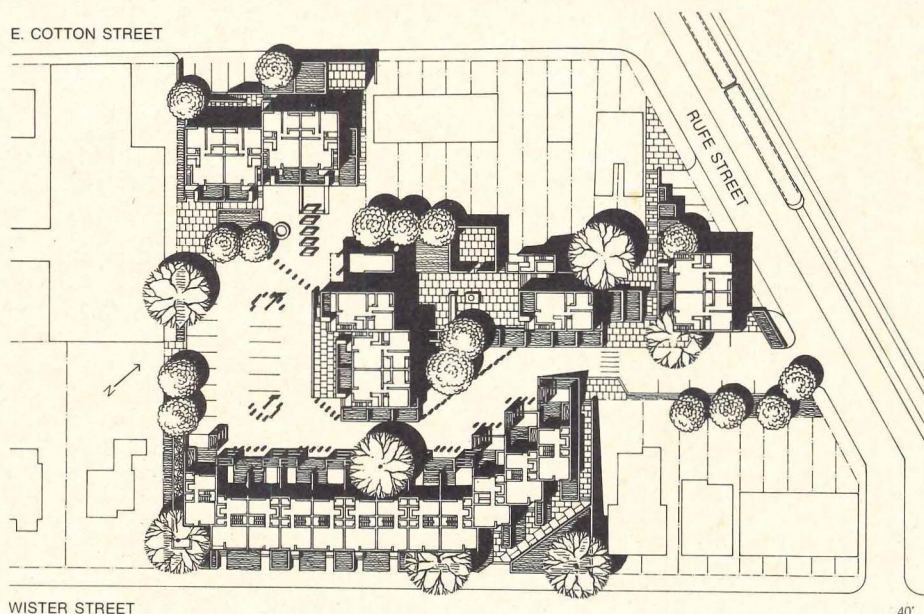
the Chicago School. You can't walk down Market, Broad, Walnut or Pine streets and see the Philadelphia School as you can the Chicago tradition by crossing the Loop. As a distinct geographical style, the Philadelphia School is a myth of destiny which did not manifest itself.

However, P/A's Philadelphia fiction did serve a most important purpose: It brought Kahn's philosophy to a wide audience and pumped new blood into the meaning of the art when architectural sclerosis was setting in. It also gave Venturi, Giurgola, and Geddes, as well as Kahn, the kind of exposure they needed to get commissions and elaborate their ideas. However, they had to elaborate those ideas somewhere else.

Scuola di Venturi has replaced Kahn as the guiding spirit of young Philadelphia architects. Venturi & Rauch's "association-

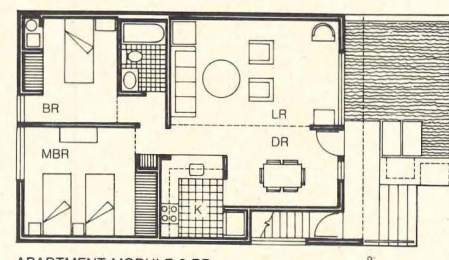


E. COTTON STREET

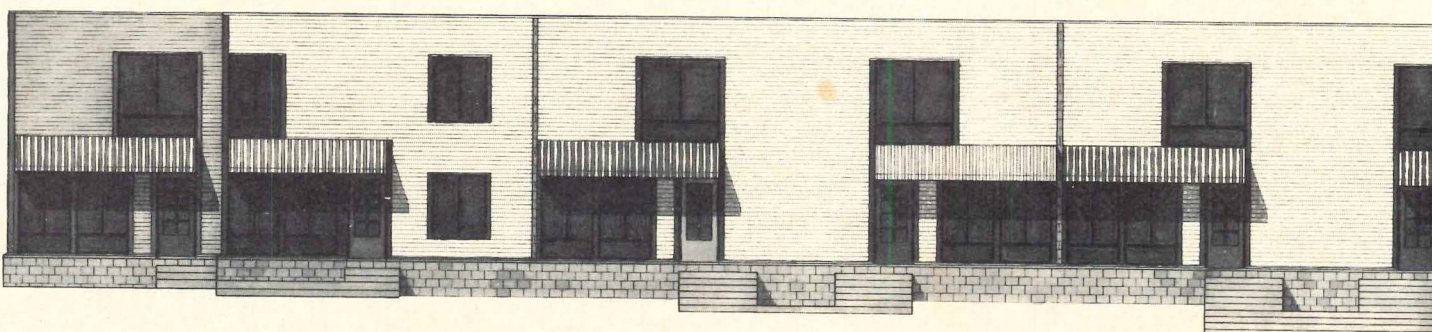


WISTER STREET

The Marketplace (above) by Levinson, Lebowitz & Zaprawkis is a deft renovation of an old 270,000 sq ft Gimble's warehouse into a new interior design center with Art Deco supergraphics on the exterior and modular display rooms inside beneath lofty ceilings. In the Wister II townhouses (below), Baker Rothschild Horn Blyth recreated the standard Philadelphia rowhouse, giving it distinction through multicolored aluminum siding with matching awnings.

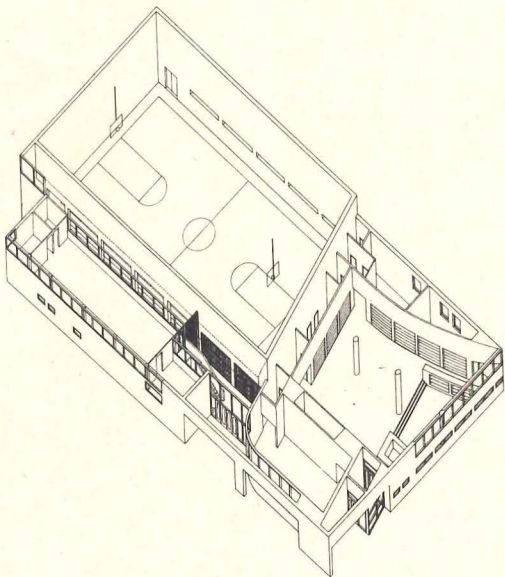
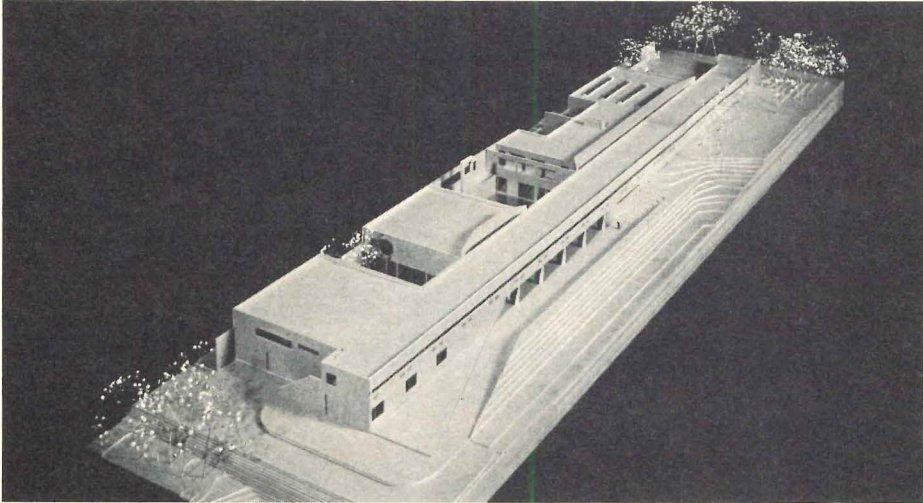
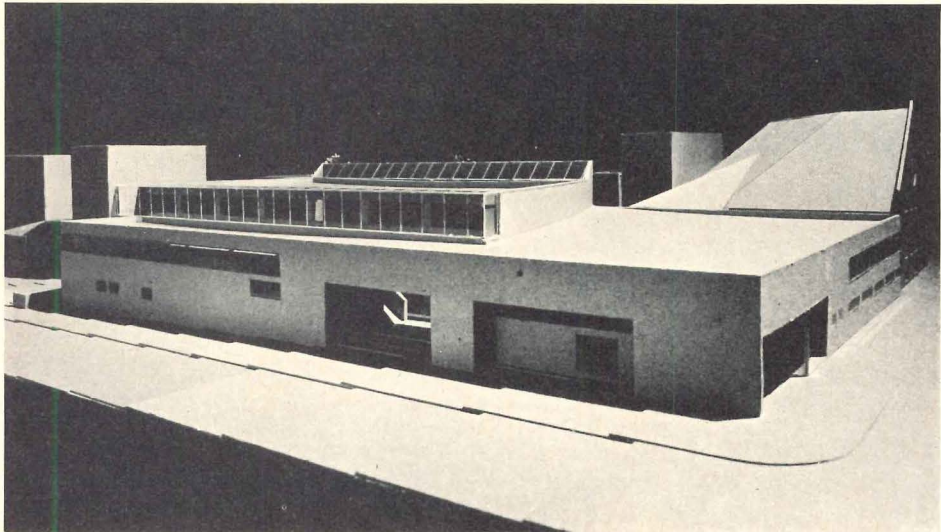


APARTMENT MODULE 2 BR

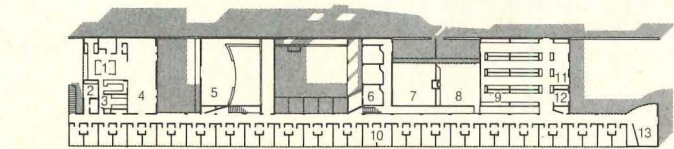


ism" fits the economic realities of this time. For young architects with small commissions, grand fundamentalist architecture a la Corbusier is beyond their reach while the catholicity of vernacular associationism is as affordable as J.C. Penney.

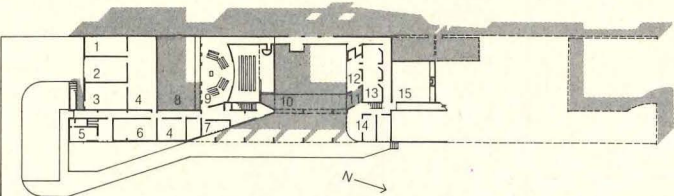
Scuola di is just the good old master-disciple relationship, whether it is Robert Venturi and Denise Scott Brown in Philadelphia or Charles Moore in Los Angeles. Where Kahn taught, he generated a school of followers, but economic conditions and a set of attitudes growing out of the 1960s has drawn more adherents to Venturi and Scott Brown in Philadelphia. So the Venturi School is alive and well in Philadelphia, but if they go to Pasadena it will be alive and well there. History does not repeat itself as neatly as *Progressive Architecture* would have had it. But nice try. □



Dagit/Saylor's Mantua Community Center (above), in Philadelphia, smoothly combines meeting rooms, a recreational gym, and a neighborhood branch library with subtle contrast between mechanical system and structural enclosure.



FIRST FLOOR PLAN

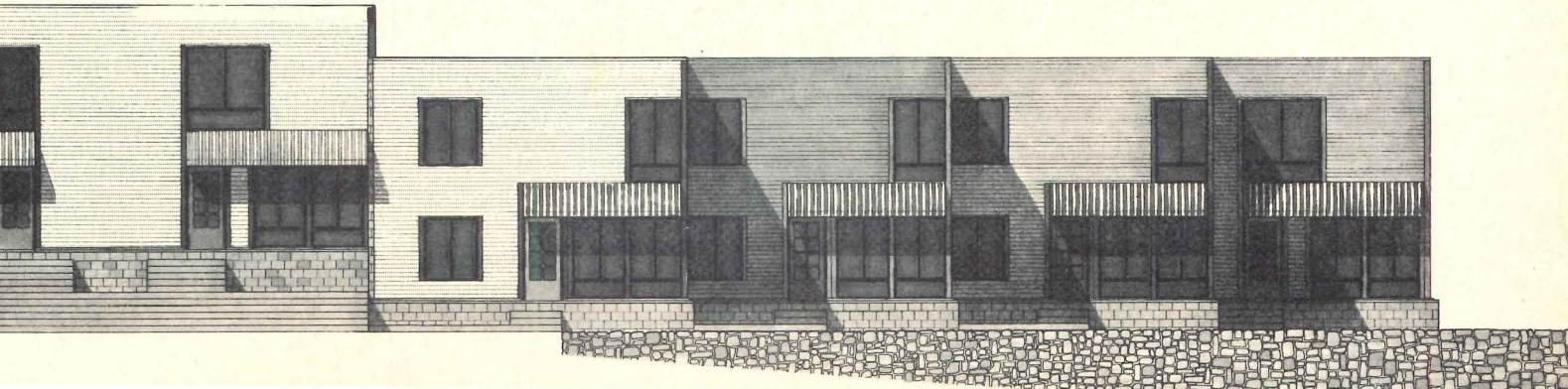


GROUND FLOOR PLAN

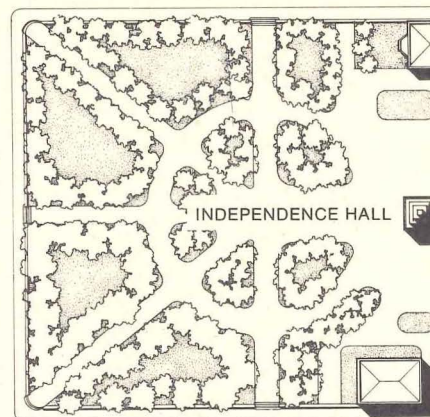
- 1 Kitchen
- 2 Infirmary
- 3 Laundry
- 4 Dining room
- 5 Upper chapel
- 6 Upper parlors
- 7 Upper chapter room
- 8 Library
- 9 Work rooms
- 10 Cells
- 11 Novitiate work room
- 12 Mimeo
- 13 Novitiate

- 1 Electrical room
- 2 Garage
- 3 Mechanical room
- 4 Storage
- 5 Chapelain
- 6 Externs office
- 7 Sacristy
- 8 Chapel garden
- 9 Chapel
- 10 Entrance court
- 11 Entrance
- 12 Vestibule
- 13 Parlors
- 14 Office
- 15 Chapter room

In the Monastery of St. Clare (left), for 38 sisters of a contemplative order, Dagit/Saylor has created a series of interlocking but mutually exclusive interior and exterior environments for both the nuns and visitors.



Philadelphia '76



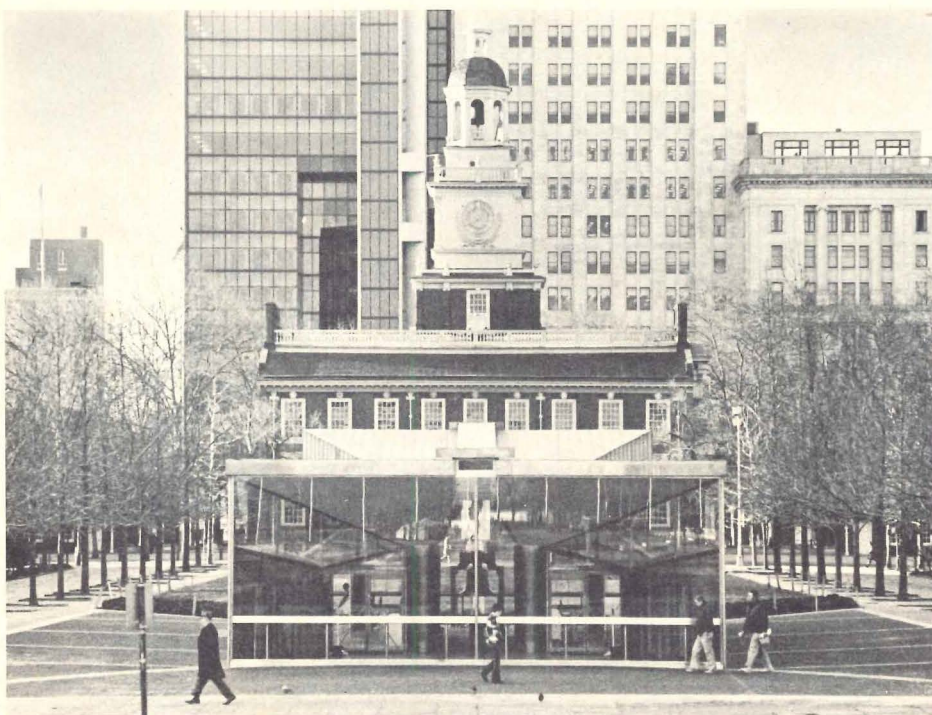
After years of planning, designing, and fantasizing, examples of Bicentennial architecture are beginning to appear—with a few questionable consequences.

Philadelphia has had the Bicentennial on its mind for a long time. Philadelphia fantasized about being the home of the 1976 International Exposition, which would mean a serious infusion of federal funds to bring off its Bicentennial festivities. Accordingly, in the early 1960s Edmund Bacon had set 1976 as the target date for the completion of most of his urban design schemes, and envisioned a large fair for several sites including Penn's Landing.

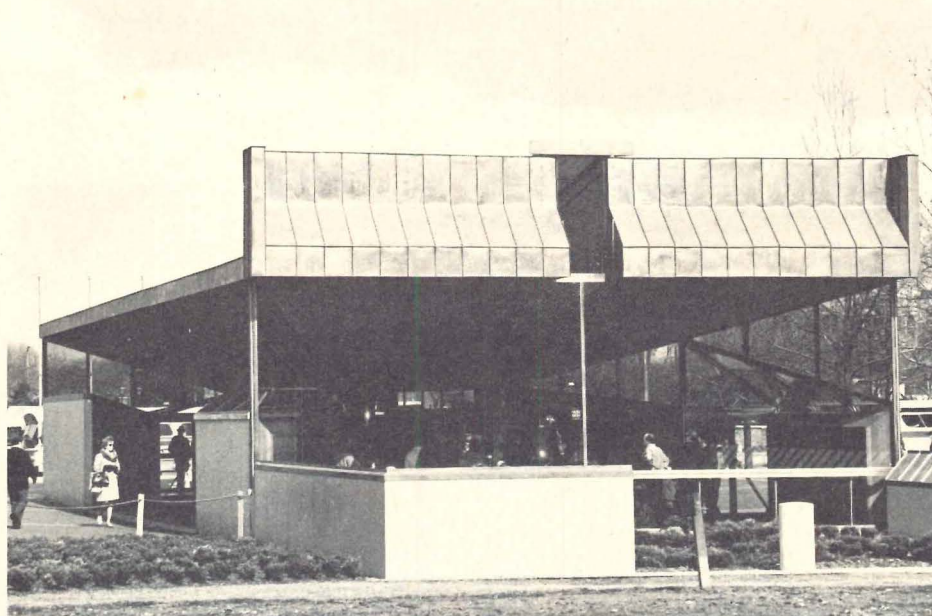
Mitchell/Giurgola designed an International Exposition scheme for a site on the west bank of the Schuylkill River in 1969 for the Philadelphia '76 Bicentennial agency. Then in 1971, Louis Kahn did the same for a site on the west bank of the Delaware River. And the following year, Kahn and a team including Venturi & Rauch worked on an international expo scheme near the airport.

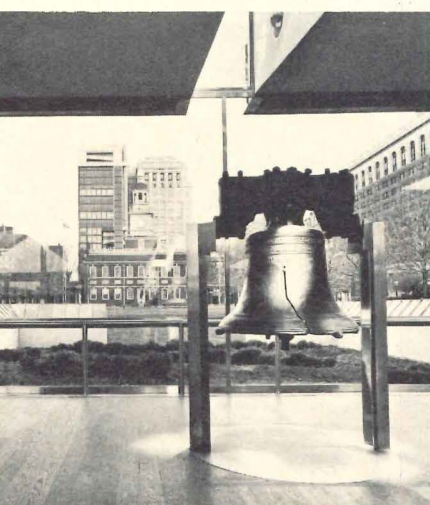
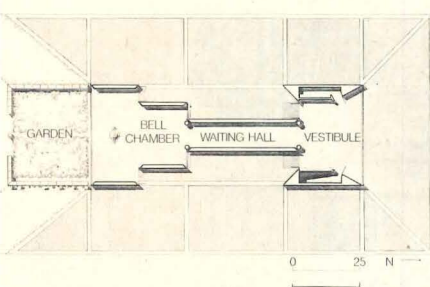
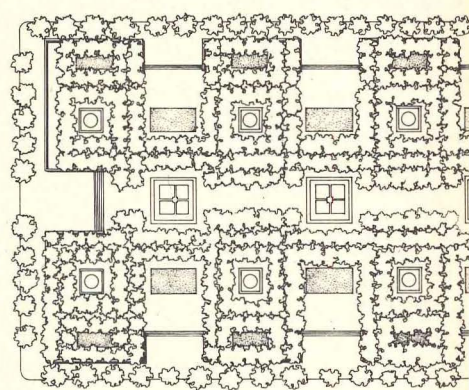
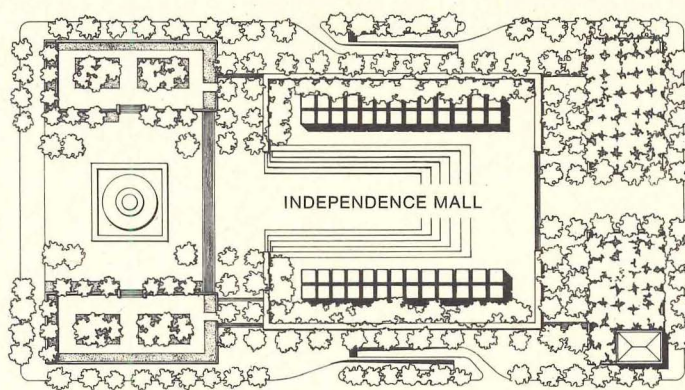
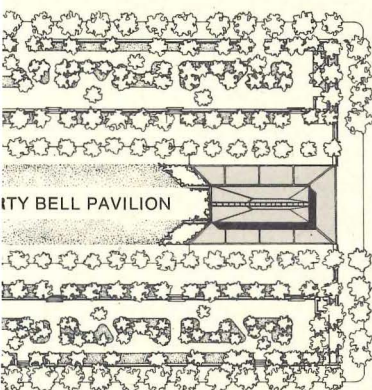
At the same time, Venturi & Rauch put forth a proposal for the Benjamin Franklin Parkway; this scheme was rejected on the grounds that it would cost too much. For various reasons—the collapse of any U.S. plans for an International Exposition, the fact that no single city was designated as *the Bicentennial city*, and therefore federal money was distributed evenly among a number of cities—all the grand schemes failed to materialize. What did result is a series of individual pavilions, museums, reconstructed or rehabilitated historic houses, and taverns.

The following pages illustrate a selection of this Bicentennial architecture; others are presented in the News report. But despite all the good intentions for involving Philadelphia's architectural talent, some of this Bicentennial architecture has definite shortcomings. It looks as if too much time was spent in the years of scheming and dreaming. Not enough time was left to work out the design ideas when it finally became clear what was possible.



Liberty Bell Pavilion from Market Street (above), and from Independence Mall (below).





Liberty Bell Pavilion

In the early 1970s, when it was decided that the Liberty Bell would have to be moved out of Independence Hall, simply because that historic structure could not possibly accommodate the crowds expected in Philadelphia during the Bicentennial celebrations, several new locations were considered. None, however, was really ideal. The small Independence Square behind the hall would not entice crowds far enough away from that building. In Independence Mall in front of the hall, an on-axis location would block axial vision to the hall, an off-axis site would put the bell in a "side event" position. Removal to the new Visitor Center, two blocks away, would deny the necessary association of the bell with the hall.

The final site chosen for Mitchell/Giurgola's new Liberty Bell Pavilion might be called the least undesirable; it is at the north end of the first block of the mall, facing Independence Hall. This position maintains identity between bell and hall and, desirably, it helps shift activity to the mall. From Market Street, though, it does prevent direct axial views to the hall.

The glass and white granite pavilion, with its sloping lead-coated copper roof and interior oak panels and floor, is not a universally admired piece of architecture. Opinions are strong, and they vary; the building has been called a jewel-like box, but it has also been likened to a drive-in branch bank. Whatever one's feelings, though, the pavilion does exactly what it was supposed to do extremely well. It houses and protects the bell without enshrining it; it permits both day and night views of the bell from the outside, which might be important for some who can't wait hours or who can only come after the building is closed at night; it maintains visual relationships to Independence Hall; and, with its linear plan it moves viewers directly from the vestibule, through the waiting hall, and into the bell chamber with economy and ease.

The most important aspect of the building, however, was that it not be a "hands-off" shrine to house a "hands-off" sacred object. The point of the pavilion was that it should look familiar—people are supposed to come in, feel at home, walk around, see and touch the bell. In this regard, architect Giurgola acknowledges that he was not unaware of the pavilion's "branch bank" aspect—an easy image familiar to all Americans. Even so, the structure still imparts a certain sense of drama. After going through the low, narrow waiting hall, the bell chamber seems spacious in comparison; the unobstructed space, with its upward-inflected roof and large glass wall framing Independence Hall in the background, truly is a memorable experience. Yet this is a simple, reticent space that does not draw attention to itself, but directs it to the Liberty Bell and Independence Hall which, after all, are what one comes to see. [David Morton]

Data

Project: Liberty Bell Pavilion, Philadelphia, Pa.

Architects: Mitchell/Giurgola Architects; John Q. Lawson and George C.N. Yu, project architects.

Program: a structure for viewing the Liberty Bell, which must be adequate for groups up to 100 to hear the oral presentation without distraction from those waiting in line.

Site: northern half of the block of Independence Mall immediately north of Independence Hall.

Structural system: roof truss supported on four columns.

Mechanical system: central air-cooled chiller unit, gas-fired hot water boiler.

Major materials: concrete foundation and supporting columns, steel roof truss.

Consultants: Vinokur-Pace Engineering Services, Inc., mechanical; Keast & Hood Co., structural; Howard Brandston Lighting Design, lighting; Robert Hansen, acoustical.

Client: Independence National Historical Park, National Park Service.

Costs: \$910,000, incl. bell support.

Photography: Hans Namuth.

Visitor's Center

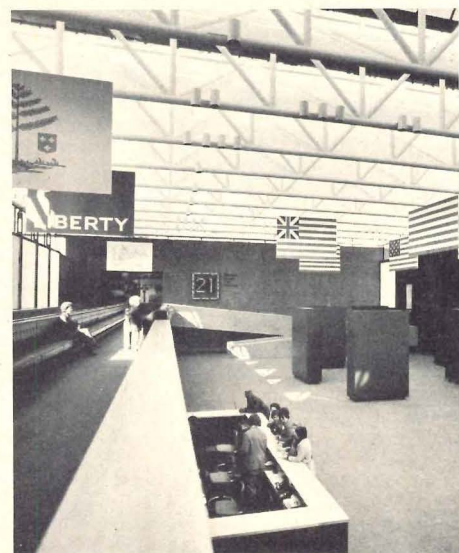
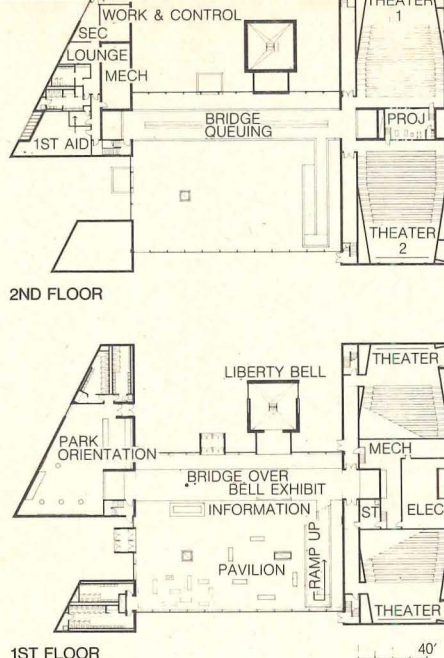
If that looks like a sizable belfry in the middle of the building, it is. It was originally designed to hold the treasured Liberty Bell within its ground floor recesses. The campanile would then signify from afar the function and contents of the Visitor's Center. However, pressure from both local and congressional sides opposed taking the bell that far away from Independence Hall.

At the last minute, the client, the National Park Service, decided to keep the bell within sight of the Independence Hall (see p. 65 for details on its new location). Unfortunately for architects Cambridge Seven, construction had already begun. So they enterprisingly suggested a bell that can really *ring* be hung in the belfry—one made at the same foundry in England as the original thing. It won't be installed until this spring when Great Britain will present it to the States as a gift.

While the gift may solve the problem of a bell-less belfry, it doesn't help the design of the rest of the building. The center was conceived to cope with long lines of visitors who would be slogging through the humidity and heat this (and every) summer to view the bell. While they did so, they could go inside and see the exhibits and films, rest, and relax. Visions of the hordes prompted the general parti, in which long ramps lead from the large skylit exhibition space up to the second-level auditorium entrances. A second-level bridge spans the 150-ft-wide hall to provide extra queuing room for tired tourists. They even have 200 ft of bench to sit on. Now, there may not be quite the same number of people. Thus, the center seems rather overscaled; its generous measurements are not quite warranted for a purely exhibit-and-information structure.

All the elements chosen to construct the building seem so right: the flat, brownish brick walls with Flemish bond and Dutch corner coursing similar to local masonry; the large, open barrel-vaulted skylights; the steel space frame; ramps, bridges.

But the way it comes together appears instead proportionless and awkward. Though the south elevation is heralded as the entrance, most visitors head straight for the west (exit) elevation where the campanile is located. Entering from the west plaza, one is only aware of the lack of detail in the scaleless, massive, brick planes. Past the freestanding belfry and inside the entrance, the space lifts to the skylight for about a hair's breadth (it seems), immediately to come crashing down again, with the low soffit of the elevated bridge traversing overhead. In the main exhibition space, things seem brighter if not a bit tumultuous—what with people, display units, information counter, and side ramps. Lighting, on the other hand, is sensitively solved. Fabric sunshades are angled from the top chord of



Skylit exhibition hall (above).



West elevation with belfry and exit.

one truss to the bottom chord of the next. Strip fluorescent fixtures run along the top truss chord while incandescent canister fixtures are attached to the bottom ones. Neon lighting illuminates the underside of the bridge, for a touch of the outré.

But, again on the exterior, there is trouble. The Visitor's Center has the unfortunate problem of having to blend in with surrounding immaculately scaled and articulated buildings, such as the Neo-classical First Bank of the U.S. (Girard Bank), designed by Samuel Blodgett, Jr. in 1797 (to the west) and William Strickland's Merchants Exchange building of 1832 (to the south). While it looked in model form (aerial perspective) as if the building were going to be able to pull this off, when perceived from street level, the massing and diagonal inflections simply don't provide the scale, articulation, and configuration that the context demands. [Suzanne Stephens]

Data

Project: Visitor Center, Independence National Historical Park, Philadelphia, Pa.

Architects: Cambridge Seven, Cambridge, Mass. Peter Chermayeff, principal; Charles Russel, associate; John Stebbins, project architect.

Client: National Park Service; Hobart Cawood, Superintendent of Independent National Historical Park, and Donald Benson of the Denver Service Center.

Program: provide a permanent point of arrival and orientation for visitors to Independence National Historical Park in 39,000 sq ft.

Site: approximately 2½ acres at Third and Chestnut Sts in the old section of the city.

Structural system: structural steel frame, masonry walls, structural steel space frame roof with barrel-vaulted skylights.

Mechanical system: forced hot air and a/c in public spaces, with supplemental fin tube radiation in offices. Freestanding exhibit elements act as air supply registers.

Major materials: brick, structural steel exposed concrete aggregate (for bridge), glass window wall, porcelain enamel panels, metal decking, acoustical tile, vinyl asbestos tile. (See Building materials, p. 118.)

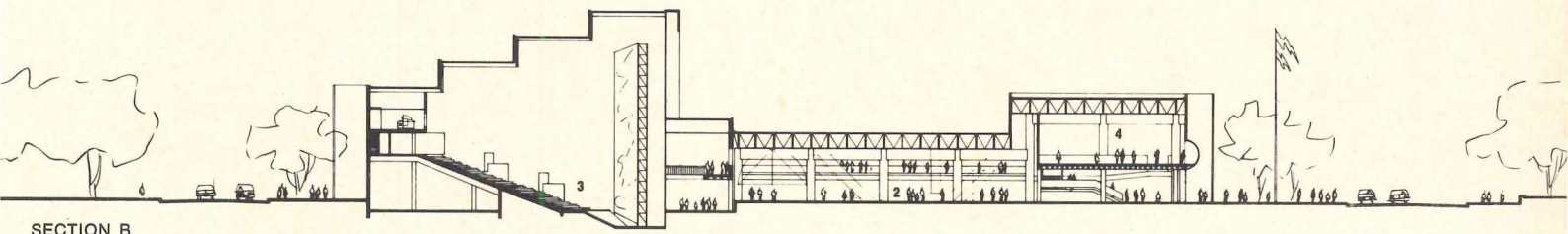
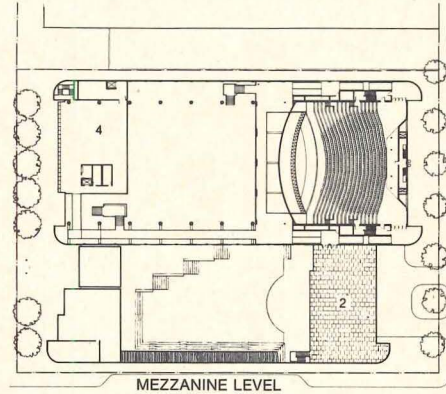
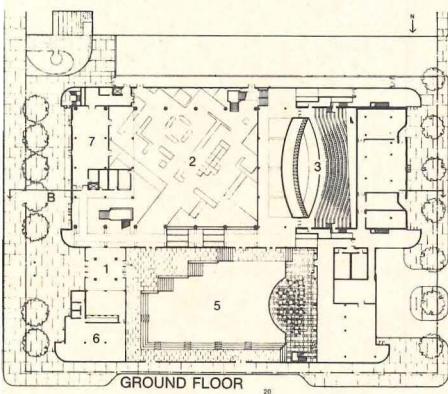
Consultants: Carol R. Johnson & Associates, landscape architects; Cambridge Seven Associates (New York) exhibit design; Cosentini Associates, mechanical; Le Messurier Associates, structural; International Consultants Inc. cost estimators; Howard Brandston Lighting Design, Inc., lighting design.

Costs: \$3,343,276, not including carpeting, film exhibits, or office furnishings.

Photographs: Harris-Davis.

Living History Center

- 1 Lobby
- 2 Exhibits
- 3 Theater
- 4 Restaurant
- 5 Courtyard
- 6 Tickets office
- 7 Commercial



The Living History Center is surrounded by huge buildings, but its own mass, which could have been very bulky, is broken down into small units.

In Philadelphia, the city's principal, permanent, new contribution to the Bicentennial is scheduled to open soon. By any standards, the Living History Center designed by Mitchell/Giurgola Architects is a big building. In addition to two restaurants, a sales shop, and the necessary offices, the center features as its main attractions an 875-seat movie theater, with a 65' x 90' screen, and 20,000 sq ft of exhibit space, designed by R. Loewy International, for presenting its theme subject—200 years of America's heritage.

With such space requirements, the building could easily have become overwhelming, and in that case it would have simply joined the other (mostly governmental) gargantuan structures lumbering up the sides of Independence Mall. But unlike the designers of those foreboding presences, Mitchell/Giurgola knew that there were other possibilities. Recognizing that the Center should be an informal place that would not overwhelm the visitor by its scale, the architects' main concern was to resolve the large area of the exhibit space and the large volume of the theater into a composition of humane proportions. Their solution locates the theater to the rear, where it becomes a backdrop to the

lower front portion of the building—the exhibit area, sales space, and a restaurant. Two small wings containing the lobby, ticket office, and the other restaurant extend from each end of the north façade to enclose a large courtyard and outdoor dining terrace. A children's roof-top play area is above the courtyard restaurant.

Inside the red brick and stucco building, steel trusses and lightweight joists span the 110 ft width of the 70-ft-high theater and the 20-ft-high exhibit area, to give uninterrupted spaces. A mezzanine surrounds three sides of the exhibit area for additional viewing possibilities, but it also becomes an exit lobby for the theater and contains a restaurant that overlooks the exhibit areas.

Although the Living History Center will be out of place, in the best sense, in its surroundings, it does make one condescending gesture to its setting. Trees and shrubs are of the same kind found in Franklin Park and the Mall (toward which the Center faces)—practically the only good features of its site. [DM]

Data

Project: Living History Center, Philadelphia, Pa.

Architects: Mitchell/Giurgola Architects; Fred L. Foote, Bennett D. Colesberry, project architects.

Program: 875-seat theater, 20,000 sq ft of exhibit space, and auxiliary areas.

Site: northwest corner of block facing Independence Mall and Franklin Park.

Structural system: fast-track construction; reinforced concrete up to mezzanine level; above, 110-ft light-weight steel joists supported on precast concrete girders framing into cast-in-place concrete columns in exhibit area; 110-ft-long steel trusses between purlins of wide flange shapes, for theater.

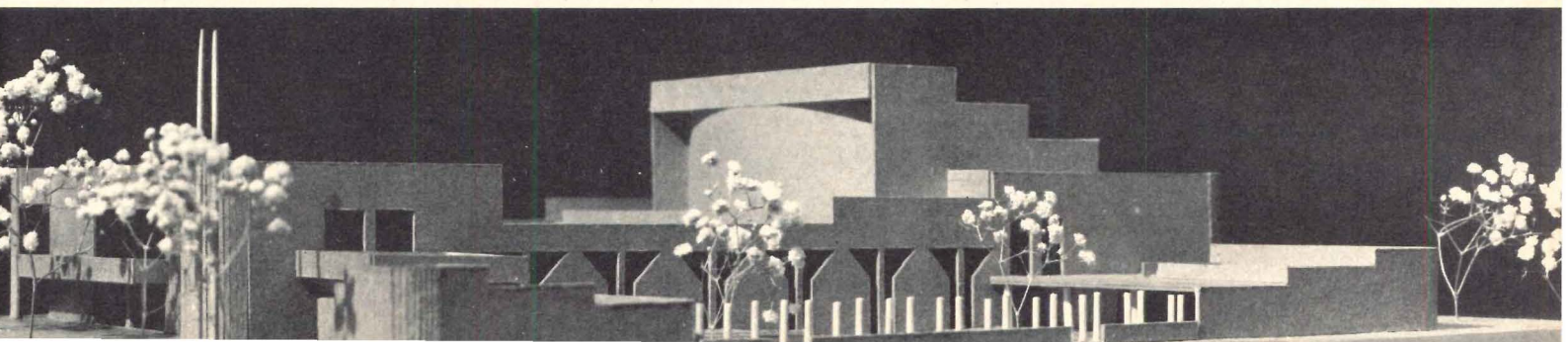
Mechanical system: roof-top self-contained heating and cooling units, each serving a zone.

Major materials: concrete, steel, brick, stucco, glass, and hollow-metal window wall.

Consultants: R. Loewy International, Inc., interior; Joseph R. Loring Assoc., mechanical; Skilling, Helle, Christiansen, Robertson, structural; Howard Brandston Lighting Design, Inc., lighting; Ogden Food Service Corp., restaurant interiors.

Client: Philadelphia '76, Inc.

Costs: \$4,550,000, \$52 per sq ft; not including interior finishes or exhibits.



The Graff House

"I think, as the excessive heats of the city are coming on fast, to endeavor to get lodgings in the skirts of the town where I may have the benefit of a freely circulating air," wrote Thomas Jefferson in the warm spring of 1776.

The Graff House, where he drafted the Declaration of Independence, had just been completed when Jefferson took up residence in the spacious second-floor rooms overlooking High (now Market) and Seventh Streets during 100 of the most critical days in America's history.

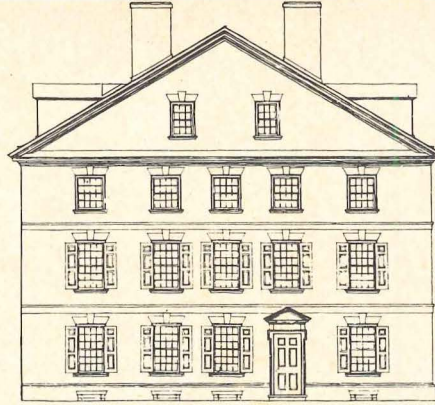
The red brick house was solidly constructed by the young, recently married bricklayer Jacob Graff, and his father, but it did not have an extremely long life. When it was demolished in 1883 by Penn National Bank for a new facility, a drawing made at the time showed a structure so extensively altered and added to that it bore little resemblance to the original. Recent research, however, including Jefferson's and early owners' letters, and material salvaged from the demolition, give a reasonably accurate picture of what the house was like, and form the basis for this new reconstruction.

In building the new structure, architects Harbeson Hough Livingston & Larson—H₂L₂—were asked to add, in a connected building to the west, almost double the original space for exhibits, film viewing, sales, and storage. The reconstructed portion includes a recreation of Jefferson's original rooms, which were the impetus for the project in the first place, and additional exhibit and storage space.

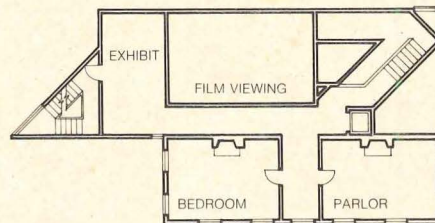
In the modern poured-in-place concrete addition, cornice lines of the reconstructed building have been faithfully maintained. Where "old" joins new at the Graff House's west side red brick party wall, the new wing has been either inflected away from the old, as seen at the Market Street façade, or visually separated from it by a vertical band of black windows, as shown on the Seventh Street side. With this gesture the new wing becomes a neutral, planar backdrop that emphasizes the presence of the reconstructed building.

At the west end of the site beyond the new addition, the party wall that originally terminated the series of houses in the Graff House row has been retained and refurbished. The ghostlike vestige conceptually completes the original row of houses, and forces a reading of the modern wing as an insert in an "uninterrupted" historic fabric.

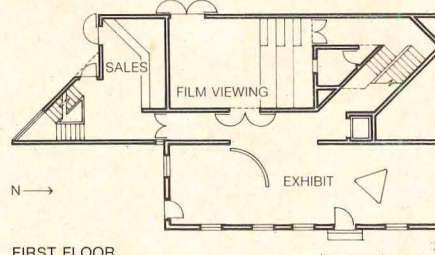
At the Graff House, new and old exist along side and between each other in a relationship that is as mindful of 1776 as it is of 1976. [DM]



EAST ELEVATION

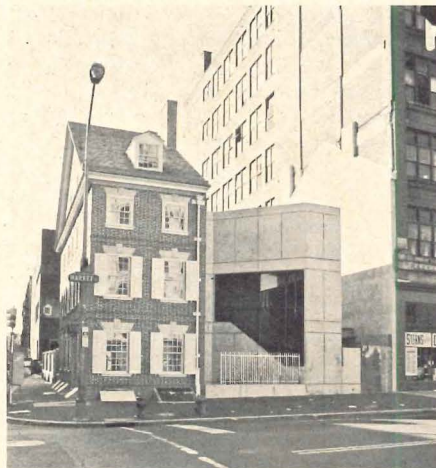


SECOND FLOOR



FIRST FLOOR

First built in 1776, and then reconstructed exactly 200 years later to recreate rooms where Jefferson drafted the Declaration of Independence, Graff House has new addition. Period furniture is from National Collection.



Data

Project: Graff House Complex, Philadelphia, Pa.

Architects: Harbeson Hough Livingston & Larson—H₂L₂—Philadelphia, Pa., William J.H. Hough, Jr., partner-in-charge.

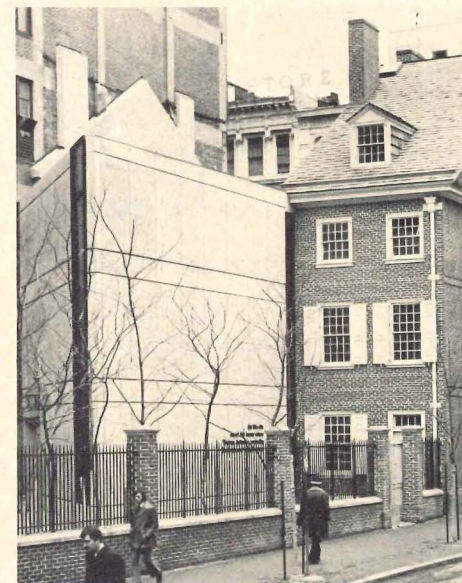
Program: reconstruction of 1776 Graff House and addition of new exhibit, storage, and film-viewing wing.

Site: corner city lot at Market and Seventh Streets, in Old Philadelphia.

Structural system: reconstruction—red brick bearing walls laid in flemish bond with burnt



Main entrance to Graff House is on side street (above); new wing is actually in back of house in garden with other new buildings (not shown).



headers, pre cast concrete plank; new addition—poured-in-place concrete.

Mechanical system: forced warm air and electric cabinet heaters, central air conditioning.

Major materials: red brick, concrete.

Consultants: A. E. D'Ambly, Inc., consulting engineers; National Heritage, Inc., historical consultants; Arnold Assoc., landscape; Howard Mont Assoc., exhibit designer.

Client: National Park Service.

Costs: \$900,000.

Photography: Harris-Davis.

Franklin Court

In a significant and *significant* scheme, Venturi & Rauch have built a "ghost" house on the site of Benjamin Franklin's home near Independence Hall. The house and garden, in turn, sit on an underground museum devoted to Franklin's professional and personal life.

When the National Park Service obtained this site as part of its Independence National Historical Park in 1950, it found few remains of the Franklin house that had been torn down in 1812. Rather, five houses facing onto Market Street, which Franklin had leased to tenants remained, but in a very much added-on-to and transmuted state: Franklin's house and print shop had been located in back of these houses, linked to the street via an archway through one house.

For the Bicentennial, the Park Service commissioned Venturi & Rauch to devise a program and feasibility study for the Market Street houses and come up with some solution for "re-creating" Franklin's own house. Despite archeological digs over the years, not enough evidence for an authentic reconstruction of the house could be turned up. So Venturi & Rauch decided to "reconstruct" the house in steel tubing, to indicate, to the best of collective knowledge, where the various spaces were located and housed exhibits in an underground museum.

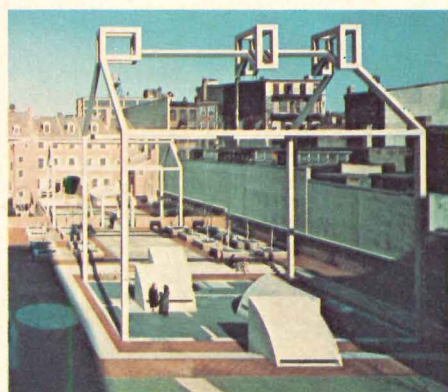
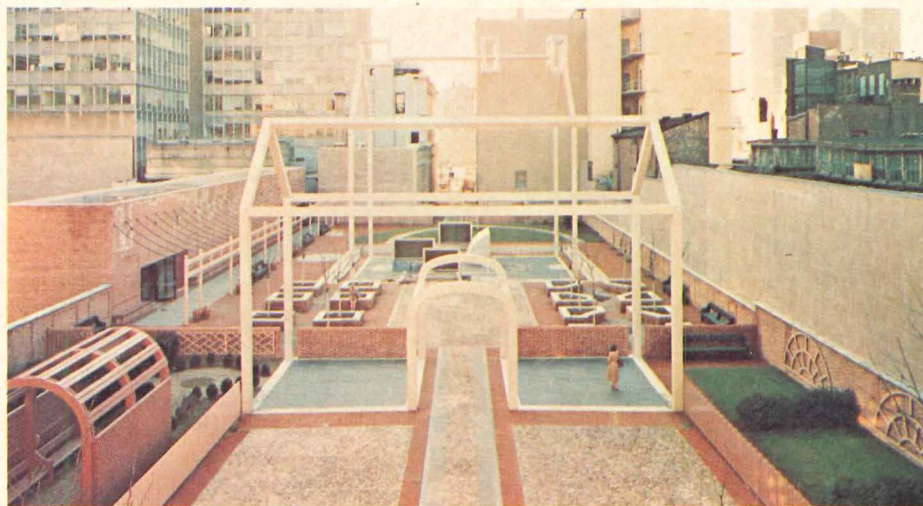
The firm then allocated spaces for the new functions in the houses along Market St., to serve as a post office, office, and exhibit space for the National Park Service. Then National Heritage Corporation, an architectural firm specializing in historic buildings, was brought in to reconstruct the 18th-Century façades of the houses, and to execute interiors.

Venturi & Rauch designed the garden, a very pleasant formal affair, to exaggerate many of the features of an authentic 18th-Century garden, in anticipation of the crowds who will visit it. Thus, the rose arbor is huskier than it might have been, the benches (designed by Robert Venturi) and trellises larger. While an awning would normally not have graced the Franklin garden, it was a part of the conventional streetscape at the time, and so Venturi & Rauch decided to install one alongside the museum entrance. A brick shed indicates the entrance to the underground museum, where the 21,400 sq ft of exhibit space is contained within a reinforced concrete structure extending almost the entire length of the garden. Exhibition designers de Martin-Merona-Cranstoun-Downes Associates are designing the subterranean exhibits, which will be ready this month.

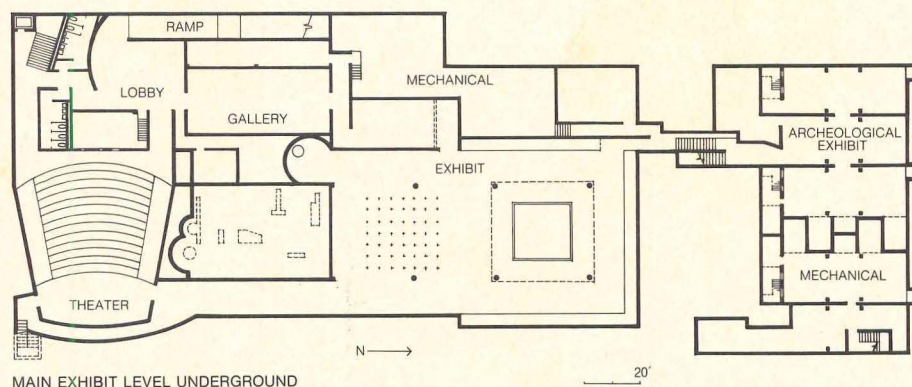
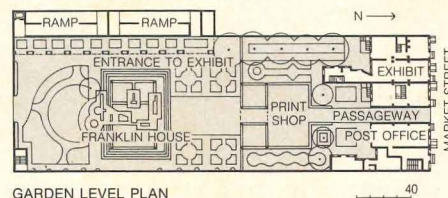
In re-creating the house/printing shop, Venturi & Rauch decided on a structural steel tube 1 ft sq as the "frame." Where there were some remains of foundation walls, privy pits, etc. the firm glazed them over, and built concrete hoods to shield the glass from the glare for viewing. The actual first floor plan of the house is demarcated by its slight depression below



Reconstructed houses designed by Ben Franklin on Market St.



In back of houses is the "evocation" of an 18th century garden (above) 22,000 sq ft in size, in which the ghost houses (print shop, foreground, residence, rear) are situated next to entry (right) to underground museum.



Bicentennial architecture

grade and white marble outline. Gray stone is used to indicate window openings, hearth, and steps, while black slate designates general floor areas. Engraved in the slate are homey fragments of conversations among the family (culled from diaries) that refer to the architecture and design of the original house. The effect of these quotes would be pure kitsch in any reconstructed house. Here, however, they add an ironic (and spooky) comment about the need to recapture remnants of a past we have already destroyed. Like the frame and the plan demarcations, they become architecture *parlante* in the most literal way. Architecture in a sense disappears; what is left is purely sign. [SS]

Data

Project: Franklin Court, Independence National Park, Philadelphia, Pa.

Architects: Venturi & Rauch, Associates and Planners, Philadelphia, Pa. David M. Vaughn, project architect.

Program: on the site of Benjamin Franklin's house and print shop (torn down in 1812) would be "reconstructed" some sort of memorial and exhibit space plus garden in back of five houses facing Market St which have reconstructed façades, new spaces within.

Site: approximately one-half acre mid-block on Market St between Third and Fourth Sts.

Structural system: structural steel tubing 1-ft sq delineates frame of the "ghost" houses. Reinforced concrete is used for underground museum; masonry block walls, steel frame metal deck, and concrete slab provide structure for

reconstructed houses, which have wood frame roofs and wood shingles.

Mechanical system: electrical heating, forced air system; central a/c.

Major materials: brick facing, quarry tile, marble, granite, bluestone and flagstone paving, carpeting, gypsum board, acoustical tile.

Consultants: National Heritage Corp. reconstruction design for Market St. houses; de Martin-Merona-Cranstoun-Downes Associates exhibit design. Synterra Ltd., landscape architects; Keast and Hood, structural engineers; Vinokur-Pace Engineering Services, Inc., mechanical; Raymond Grenald, lighting.

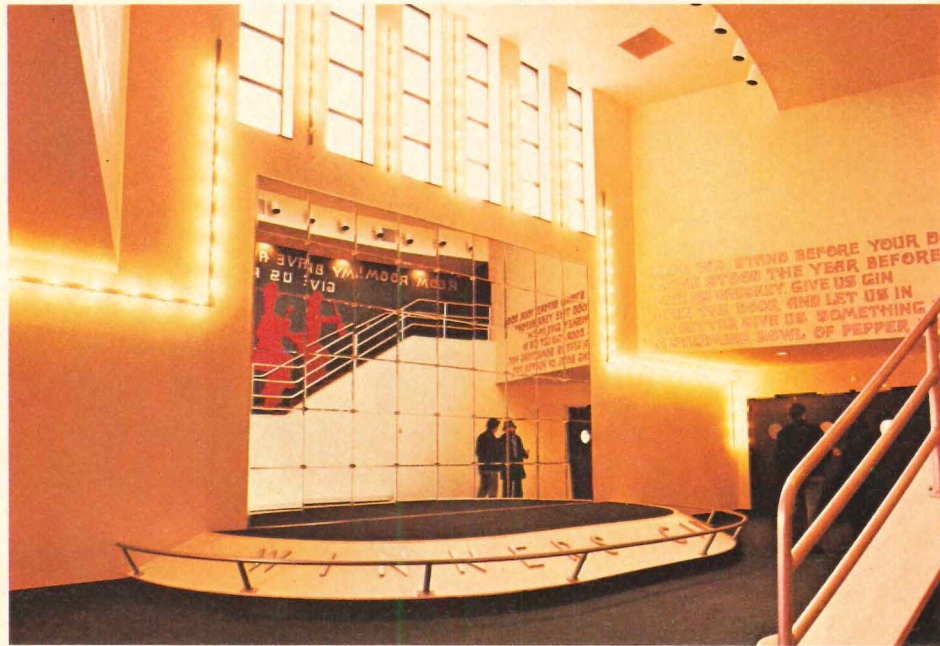
Client: National Park Service; Hobart Cawood, Superintendent, Independence National Historical Park and the Denver Service Center.

Costs: \$4,748,000, including reconstruction and site work, not exhibit.

Photography: Mark Cohen.

Mummer's Museum

Philadelphia has had Mummers since the colonial days. Soon an appropriate museum design will celebrate this group of minstrels and troubadours, who once a year (New Year's Day), get dressed in their gaudiest satin and feathered, beaded, and baubled costumes, and strut to the accompaniment of string bands down Broad Street. Mummery is an obsession with Mummers and all year long they frequent their clubs along "Two" Street in South Philly. So it is not surprising that they wanted their museum, replete with luxurious bar, at the head of Two Street where it meets Washington. Since it occupied a corner site, architects Ueland & Junker gave the structure a grand marquee-like entrance with colored brick and stepped profile out of "1930s movie house" style.



Museum has headdress-like entrance (below) display space in lobby (above).



Inside, the architectural treatment evokes your basic 1930s streamlined moderne, with white walls, aluminum hand-railings and gray carpet setting the tone. In the entrance foyer, the architects left room for a small stage display area for prize-winning costumes. Paneled bevel-edged mirrors, punctuated by glass knobs, form the setting for the display, along with a swag of bare dressing room lights. For the homey touch, Mummies' mottos embroider the walls and a mural of silhouette figures trip up the stair.

Beyond the foyer, a ship-deck-like mezzanine overlooks the large double-height Hall of Fame. Here, club coats of arms will be displayed and photographs of Mummies elected to the hall of fame will be mounted. Underneath the mezzanine is tucked a long curved bar and lounge. Materials throughout are inexpensive: vinyl asbestos flooring; gypsum board, plywood facing for the bar, and tin canisters for the lighting. But the ambience and hot colors, the deco pattern of the vinyl floor, the bowed (Venturiesque) curve of the stage, and the mannerist treatment of display mountings, are comparable to any night club in a Fred and Ginger movie.

On the second level are the exhibit halls. At the top of the grand stair, a tunnel-like portal funnels visitors into the main exhibition hall. Here, in a two-story space, "Walk Down Broad" will be created with large photomurals and sounds recalling the annual event. Topped by a skylight over metal decking and bar joists, the room is further illuminated by spots hung on tracks suspended from the joists. White aluminum louvers will baffle the light and simulated asphalt tile flooring will enhance the streetlike character of the space.

Other exhibits promise to be as imaginative. (Unfortunately, as the magazine goes to press, none has been installed.) Artifacts, costumes, memorabilia, films of the earliest recorded "shooters" on hand-cranked monoscopes will be shown along with original string instrument accompaniment. In one section, visitors will be given a chance to see themselves in costumes mounted on the back of a wall through an elaborate system of lighting and mirrors; another section will show illuminated photos and films of the "strut" step while spectators learn the dance. The participatory displays are also supplemented by more academic resources, such as the library on the top level.

While the exhibits, carpeting, murals, and mottos certainly take away from the basically moderne streamlined character of the architecture, the additional flashy touches should be appropriate for the kind of subject matter displayed within. [SS]

Data

Project: Mummies' Museum, Philadelphia, Pa.

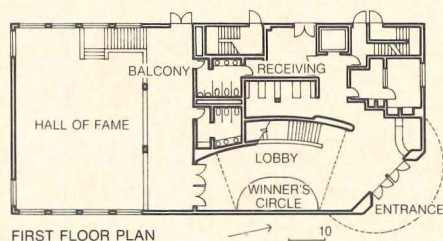
Architects: Ueland & Junker, Philadelphia, Pa. C.A. Junker, partner-in-charge; Burkart Stelzer, Paul Hirshorn, Joanne Thiede, project team.

Program: exhibition, meeting, office, and library space totalling 19,104 sq ft.

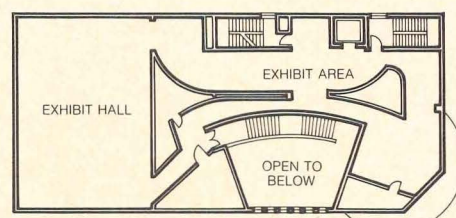
Site: 0.6 acres on the corner of "Two" Street



Hall of Fame (top); main stair to exhibits (above).



FIRST FLOOR PLAN



SECOND FLOOR PLAN

and Washington in South Philadelphia.

Structural system: steel frame, metal deck, composite slab construction.

Mechanical system: a/c and heat, forced air, supplemented by hot water radiation.

Major materials: brick, glazed and unglazed; wall tile, carpet, vinyl asbestos tile, wall board.

Consultants: Nave, Fortson, Nicholson Design Associates, exhibit design; George Bowditch, Chief Curator of Exhibits, The Margaret

Woodbury Strong Museum, museum consultant; M. Michael Garber & Associates, mechanical and electrical; Bernard N. Webb, structural.

Client: New Year Shooters' and Mummies' Museum, Inc.; city of Phila., Phila. '76 Inc.

Cost: \$1,104,000. (Seed money from the Bicentennial organization, Philadelphia '76, Inc., with remainder paid by the city; operating costs will be carried by the Mummies.)

Photography: Harris-Davis.

Of transitions

Mitchell/Giurgola's new Penn Mutual office tower forms a symmetrical background for Independence Hall and reconciles two differing street scales.

Two recently completed buildings by Mitchell/Giurgola have several things in common. Both are in downtown Philadelphia, both are office buildings, both were built for insurance companies, and both respond with an unusual and high degree of awareness to their settings. Neither, however, is a typical tall office building; in their relationships to the street, the sun, and to their surroundings, they are unusual indeed.

The 22-story glass and concrete Penn Mutual Tower, on Walnut Street directly behind Independence Hall, the subject of discussion here, is surely the more complex of the two buildings in terms of program, structure, and the necessity to respond to a host of influences created by its (almost sacred) setting. Yet in the purely architectural realm of formal design, the Insurance Company of North America (INA) office building is perhaps the handsomer of the two. The client, INA Properties, built the fast-track, \$38/sq ft. structure as a speculative venture for rental, with INA as major tenant. Here, sleek enameled aluminum membrane skin is stretched (on a standard steel frame) over 27 stories, deeply recessed windows are shaded by curved aluminum panels. At the first two floors, the building entrance is cut back near the northwest corner, both in plan and section, to reveal a spacious, white multi-storied lobby—flanked by commercial activities—that must be one of the most sophisticated spaces in Philadelphia since the advent of those in the PSFS building almost 50 years ago.

None of this, though, would have done behind Independence Hall. The Penn Mutual Tower is very definitely a much more conservative *looking* building, yet in its conservatism, in what it has to accomplish visually, it is almost radical in the extent of its concern. It is not, as one might have expected, a simple backdrop to Independence Hall. In terms of architectural design alone, it had a vastly greater amount of work to do than the INA building.

In the east-west direction, the Penn Mutual building stands at the juncture of old and modern Philadelphia. With tall buildings to the west and low buildings to the east, this



Independence Hall before (top) and after (above) Penn Mutual Tower.



Neo-Egyptian facade of 1838 is retained as screen at building entrance.





East and north façades (above), west façade (above, right), north and west façades (below).

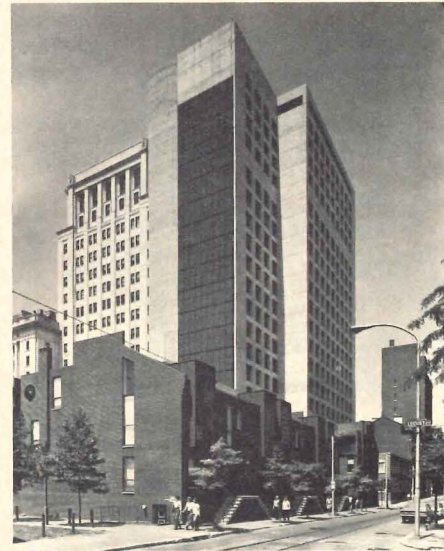
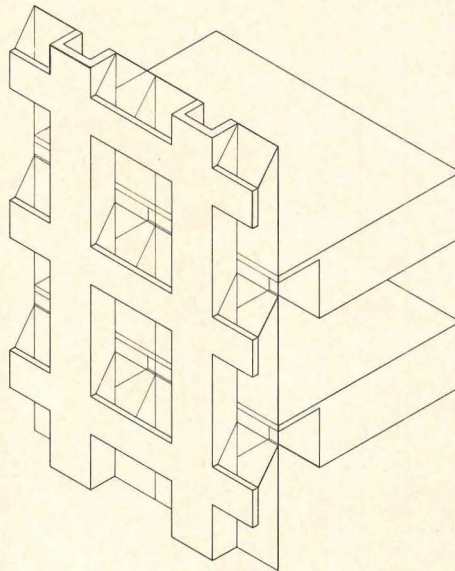


Penn Mutual's contemporary, the sleek, aluminum-clad INA Building, has recessed glazing except on north side.



Penn Mutual Tower, Philadelphia, Pa.

Cast-in-place concrete east wall of Penn Mutual Tower (drawing and photo, right) is made of U-shaped columns and cantilevered sun screens joined to each other by stainless steel pins. Columns contain narrow steel erection columns used to provide support for trusses during construction so truss and floor erection could proceed rapidly. Wall was poured from top to top of sunscreens in T-shaped steel forms. South glazing is tinted, insulated, reflective. Typical floor (below left) has 70-ft clear span.



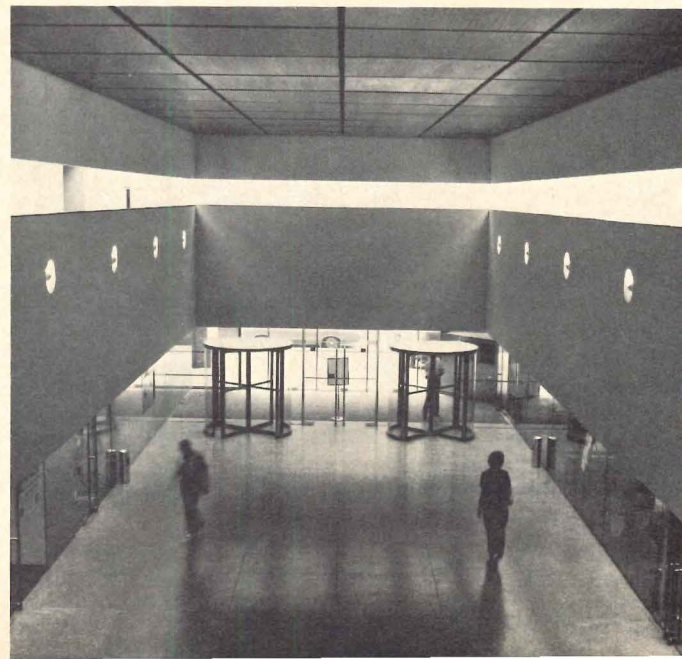
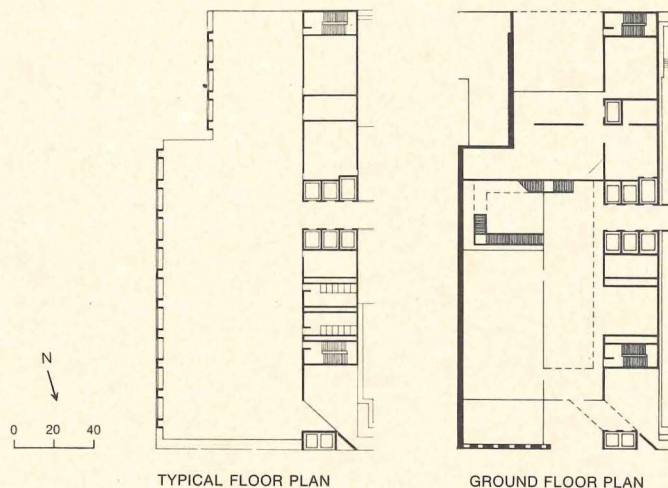
building had to reconcile the two divergent street scales while, at the same time, completing a symmetrical background for Independence Hall which, since the 1920s had been backed by tall buildings at its western half and low, invisible (from the front) ones at its eastern half, giving a rather absurd rear plane to the whole ensemble. In addition, the Penn Mutual building is the first structure on Walnut Street that must conform to the lot-line dimensions of the old city, which extend 5 ft closer to the street than those of the modern city.

To solve problems of background, the new building is given the same height as the old parent structure immediately next door. An indentation of the glazed north façade echoes the height of the parent company's lowest wing at the west end of the block, and as it meets the ground, this recess in the lower west half of the north façade is revealed in plan as a cut-away section of the building. At the west side of the indentation, a free-standing concrete and glass elevator shaft provides public access to the observation deck on top of the building; the east side forms a porticoed entry to the building. At the eastern half of the street façade, the five-story façade of an Egyptian Revival building, designed by John Haviland in 1838 and added to by Theophilus P. Chandler in 1902, has been reassembled on its original site to maintain the low scale streetscape, characteristic of old Philadelphia from this point to the east.

Because this 450,000-sq-ft building is an addition to Penn Mutual's corporate headquarters next door, and is to be used for their own future expansion as well as for rental to outside tenants, it was desirable that floor levels match as closely as possible at each of the 22 stories. Since the old building has very generous floor-to-floor heights, 4-ft-deep steel trusses could be used to span the 70 ft between the west, slipformed concrete core side of the building (where it adjoins the older building), and the east, cast-in-place concrete bearing wall side of the building. This structure eliminated the need for intermediate columns, thus giving great flexibility for office space planning and future changes. At the north and south ends of the building, trusses are held back 6 ft to allow finished ceilings to rise close to the undersides of floor decks. Where floors do not touch the service core, at the northwest corner cutback, a vertical truss hung from a tenth-floor structural member supports that end of the floors.

As with other Mitchell/Giurgola buildings, no two exterior façades of this building are similar; this is not, as is usual with tall office buildings, simply a box of some consistent nature. The north façade performs its gestures to site and context and is, in addition, glazed with tinted insulating glass that conserves energy and gives spectacular views to Independence Hall and its Mall. The south façade, which looks over the entire southern half of low, red brick

Main lobby walls are granite and glass, topped by mezzanine level.





Top floor observation room looks to Independence Mall and Society Hill.

Philadelphia, is glazed with tinted, insulating, and reflective glass. The east wall, looking toward historic Society Hill and the Delaware River, has cast-in-place concrete sun screens protecting its deeply set, glazed openings. A narrow west façade that looks up Walnut Street toward the center of downtown Philadelphia forms a transition between the old and new buildings, between the old and modern city, by acknowledging the stepback of the old headquarters building with a scheme of cut-out voids and balconies that respond and relate to other cut-outs, roof terraces, and cornice lines of the older building. Topping off the tower, a 10,000-sq-ft domed exhibit space with theaters, operated on a non-profit basis by Penn Mutual, offers cultural and ethnic history of Philadelphia to the public, along with breathtaking views of the city. The observation deck of the old building joins this level.

Although this building is widely and genuinely admired in Philadelphia, the question arises, at least to some, whether this should have been, when viewed from the front of Independence Hall, simply a reticent, even bland, backdrop to that revered edifice. Architects Mitchell and Giurgola both respond to this question. Bud Mitchell says, "We wanted a strong termination to the building . . . buildings have to be stopped some way, but particularly we wanted the public to know that the observation deck is up there, and that they are invited and encouraged to come up." As a sign, there is no question that the building's "hat," with the free-standing elevator shaft running up to it, and the exposed pedestrian ramp slicing through it, works; the message is clear.

Responding to the same question, Aldo Giurgola notes that "although a building is always a fragment of something larger, and should always recognize that, it doesn't mean that you always have to blend everything together all the time to disappear. American cities," he says, "are not like European ones where, traditionally, rulers set rules and everything looked alike. One characteristic of American cities," Giurgola concludes, "is the simultaneous appearance of different aspects, and this is one of the things that enriches them and gives them that unique vitality."

Still, there are problems with this building. If one of its intentions is to become a symmetrical backdrop to Independence Hall, it might have presented a lighter-colored aspect on the north façade to blend more with the home office



"Penn Mutual's Philadelphia" exhibit occupies most of top floor.

next door. In its vigorous effort to respond to certain characteristics of its setting, it might have given us fewer, or more modest, balconies, overhangs, recesses, and cut-outs. But maybe the real problem has nothing to do with the building at all, and everything to do with the fact that visually, at least, that mellow consistency of older cities is preferable to some. [David Morton]

Data

Project: Penn Mutual Tower, Philadelphia, Pa.

Architects: Mitchell/Giurgola Associates, architects; Brooke Harrington, C. William Fox, project architects; Emanuel Kelly.

Program: approximately 450,000 sq ft of office space to serve both for client expansion and for rental to outside tenants; floor levels of new building to align with those of client's older headquarters building next door, connecting at every level.

Site: urban lot directly behind Independence Hall in Philadelphia's Society Hill area; building to form transition between old and new city lot-line dimensions, which differ by 5 ft; building also acts as transition between low and high buildings of old and new city.

Structural system: slipformed concrete core and cast-in-place concrete walls bear all loads; desire to match generous floor-to-floor heights of old building allowed use of 4-ft-deep steel trusses which span 70 ft between core and east wall, thus eliminating need for intermediate columns and giving flexibility for office planning. At north and south ends, trusses are held back 6 ft to allow finished ceilings to rise close to underside of floor deck. Where floors do not touch service core at northwest corner cut-back, a vertical truss hung from a tenth-floor structural member supports that end of the floors. Detached from service core and free-standing in northwest corner, glass and concrete elevator shaft provides public access to observation deck.

Mechanical system: air conditioning system is volume control, cooling-only system for both interior and exterior zones; only heating is fin-type radiation units occurring continuously at perimeter of working areas.

Major materials: concrete and framed glass, with granite, stainless steel, plaster, and wood used in the lobby; stainless steel and plaster used at observation level; painted metal and fiberglass used in typical elevator lobbies and cabs. Office floor interiors not developed beyond a general level to allow owner and other tenants to lay out spaces later, as needed. (See Building materials list, p. 118).

Consultants: Robert J. Sigel Inc., mechanical; Skilling, Helle, Christiansen, Robertson, structural; Robert A. Hansen Associates, Inc., acoustical; David A. Mintz Inc., lighting.

Client: The Penn Mutual Life Insurance Co.

Costs: \$22,410,000., \$49.94 per sq ft.

Photography: Rollin la France except right column and lower left, p. 73, David Morton.

New crystal palace

At NewMarket in Philadelphia's historical Society Hill, architect Louis Sauer has created a new "Crystal Palace" of unusual verve and excitement.

The most exciting area in Philadelphia today is Society Hill, and the most exciting place there is what has quickly become known as The Glass Palace. Unlike most of the rest of Society Hill—18th-Century Philadelphia that has been in the process of restoration and renewal for over two decades now—Sauer's glass palace is starkly modern. Essentially a collection of steel-framed cubes enclosed with glass and aluminum-mullioned curtain walls, the 45,000-sq-ft complex of retail and commercial space occupies part of a city-block development called NewMarket.

The glass structures are interior to a block composed mostly of 18th- and 19th-Century townhouses. Except for the eastern façade of the complex, which faces away from Society Hill toward Front Street, Penn's Landing, and I-95, the glass cubes face inward around a large, open "water plaza" courtyard. As a consequence their brash, up-to-the-minute forms are careful not to impose themselves on the soft, red brick texture of the old neighborhood. On the north, west, and south—or Pine, Second, and Lombard Streets—perimeters of NewMarket, all old structures that could be retained were, and most have now been painstakingly and exquisitely restored for commercial and retail use by Adolf DeRoy Mark. His new red brick infill structure on the corner of NewMarket's Second and Lombard Streets, however, is less fortunate; its "modernistic" kitschy design would be better suited to a Las Vegas.

The Glass Palace opened just a year ago, and it is considerably changed from the project called Headhouse East that won architects Sauer & DeVito a P/A design award citation in 1969. Then, only 20,000 sq ft of ground floor retail space was planned, but 65 courtyard apartments were also included in the brick and stucco development. Today, there are no apartments in the glass complex, although Sauer has designed 16 condominium townhouse units for a vacant parcel on the southeast corner of NewMarket's site.

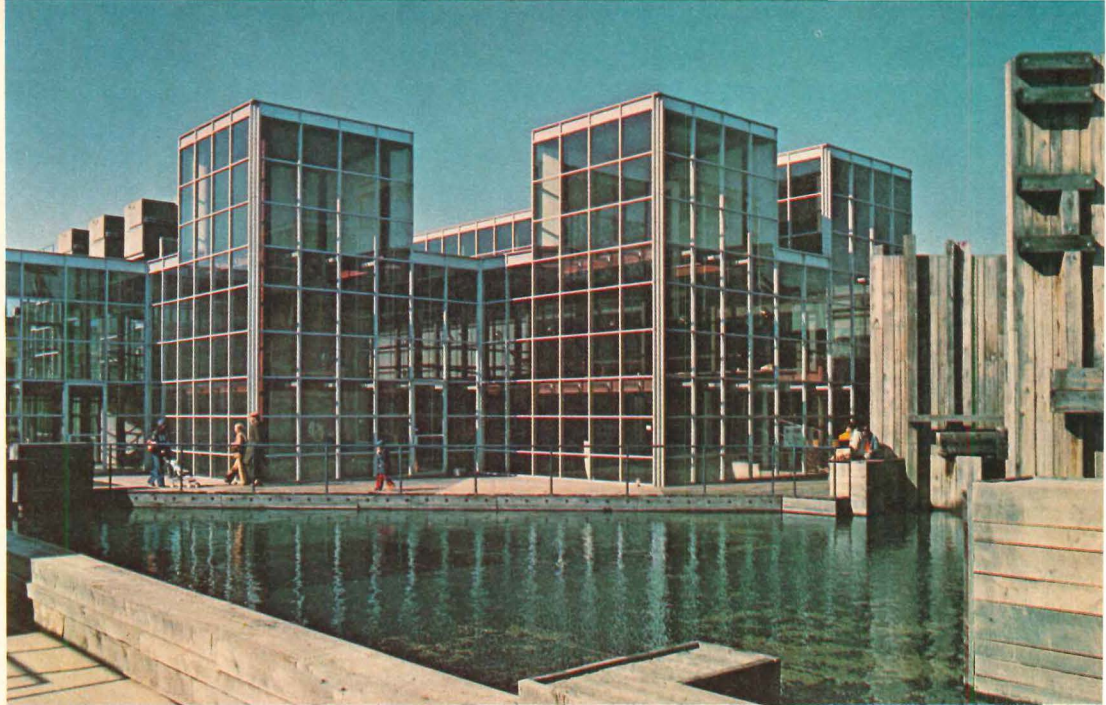
The road from the award-winning design of 1969 to the finished structure of today has not been an easy one for developers van Arkel and Moss, Inc., and Kravco, Inc., who

joined them in 1973. In 1963, the developers won a competition from the Philadelphia Redevelopment Authority to develop the NewMarket site along with the block to the west separated from it by the 18th Century Headhouse Square. As plans were altered over the years to include more commercial and retail space, the revisions were, according to law, made public and subsequently approved. Then, reports developer Urban Moss, about two-and-a-half years ago, when the glass structures were half way through construction, some nearby residents, objecting to the amount of imminent commercial activity, filed a class action suit to have construction halted. The developers' legal advice was to continue construction, reasoning that the more constructed, the more difficult it would be to stop the project. The suit meant, though, that in order to attract any future tenants at all, the developers would have to indemnify them; in effect, this was an injunction (which of course was later denied) against being able to rent early. It explains why some spaces are still vacant today.

During the legal proceedings the developers did, however, indemnify one tenant, the major one, the Rusty Scupper Restaurant designed by Edmund Stevens Associates, which occupies two levels in the big Front Street building. This was a smart move, because the restaurant immediately became highly successful (it has the greatest business volume in its chain), and did much to dispel any lingering feelings of animosity toward the commercial complex. The irony is, though, that a commercial development of similar size, The New Market, occupied the site 230 years ago.

As striking as the glass cubes are, in this day of energy consciousness, extensive use of that material calls for some explanation. Lou Sauer answers that the complex was, of course, designed and in construction before the energy crunch came upon us, and that every glass façade must be provided a required drapery when the spaces are occupied. In addition, he explains that original construction plans called for an extensive system of awnings, which were later cut out of the budget. Their mention, however, begins to touch on the rationale behind the formal design decisions made here.

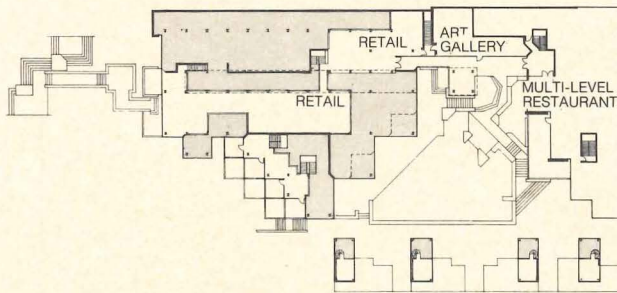
The inspiration for the extensive use of glass, Sauer notes, came to him after seeing Benjamin Thompson's Design Research store in Cambridge, Mass. "Why not let the



Front St. entrance (above) faces unfinished I-95, but inside complex, glass cubes surround large "water plaza."

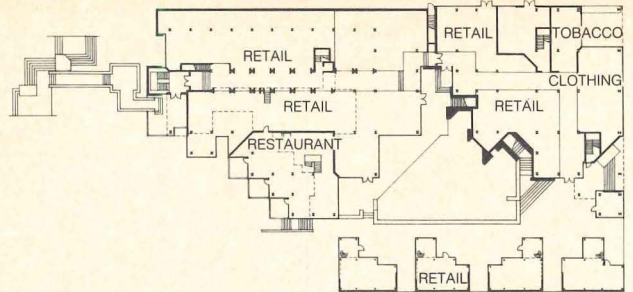


Glass Palace

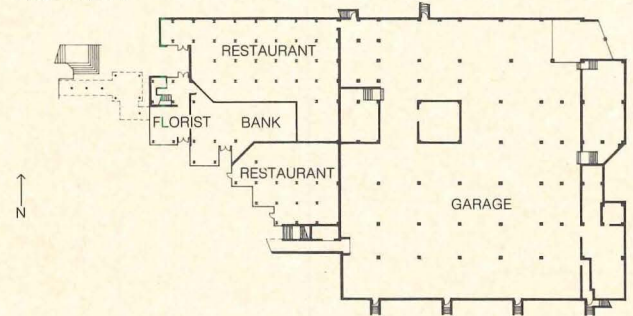


MEZZANINE LEVEL

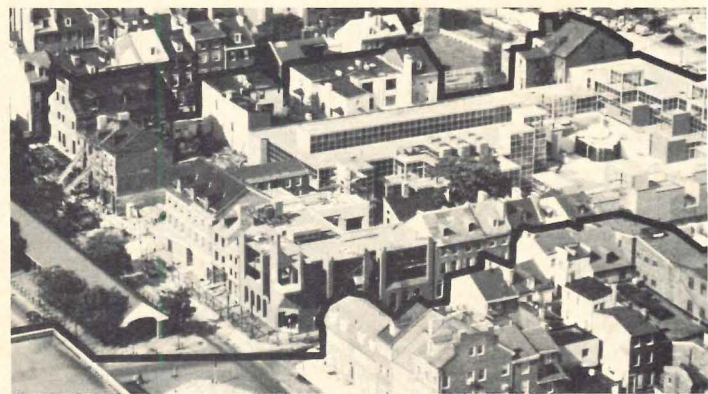
Western Savings Bank (below), designed by Louis Sauer Associates; Rusty Scupper Restaurant (below right), by Edmund Stevens Associates. Both use hanging plants and trees, along with bold colors, to create lively environments that enhance NewMarket's "greenhouse" quality.



STREET LEVEL

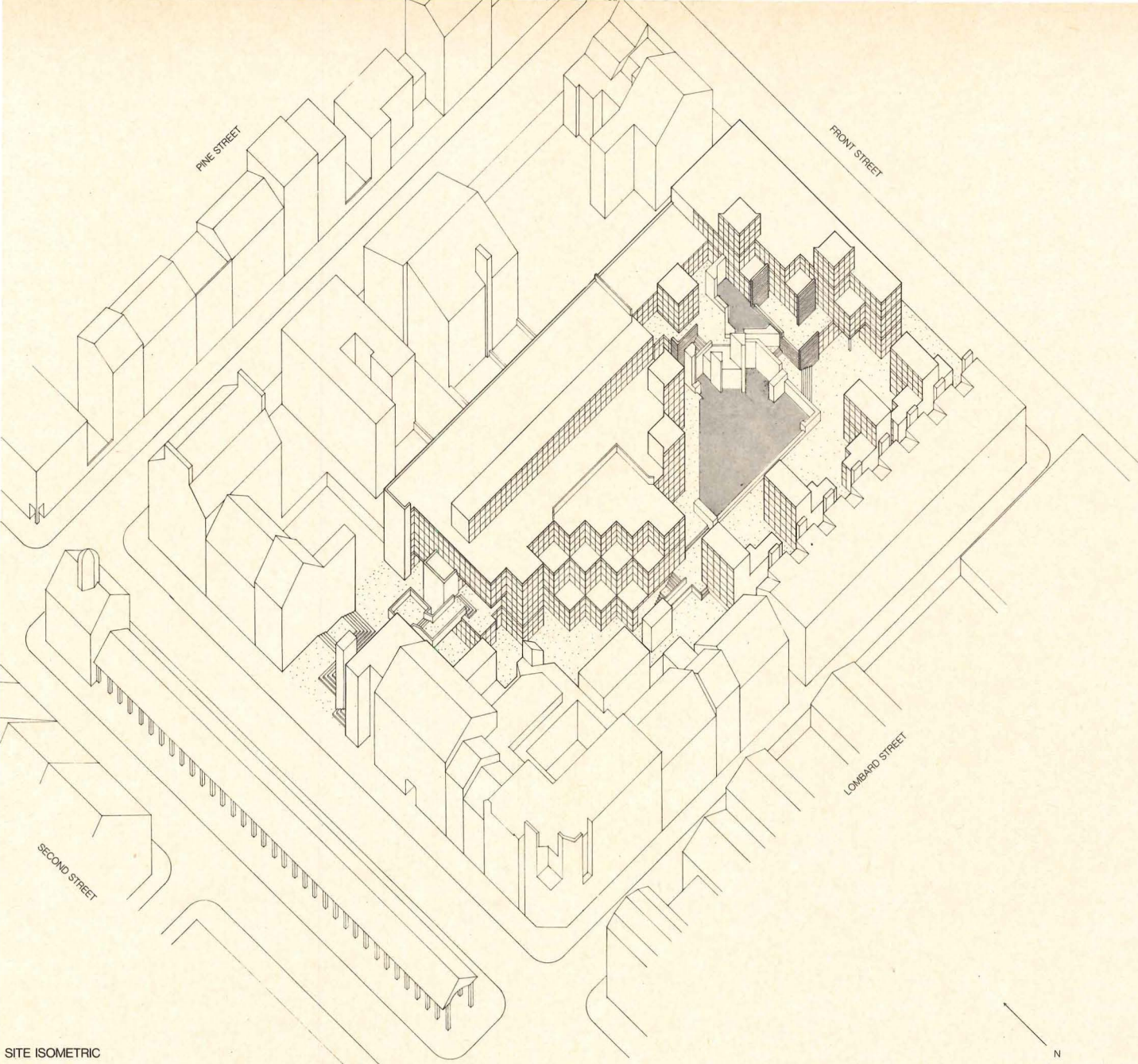


COURT LEVEL



Aerial view of glass cubes inserted into the block, behind old buildings.





SITE ISOMETRIC

interior do the work at NewMarket, too," he thought. This led to a design of glass-enclosed, off-the-shelf materials that had the effect of "neutralizing" the architecture to enhance the foreign bazaar, open marketplace idea. If one can picture the awnings, banners, and flags originally called for, this ambiance is not hard to imagine.

What is hard to imagine is how the central courtyard "water plaza" came into being. There is nothing wrong with the plan, in fact it works extremely well; the pool was designed large to squeeze the pedestrian paths for that sense of crowded, intense movement found in bazaars. What might be questioned, though, is the rough-hewn oak water sculpture in the pool and the oak benches surrounding it. Both the material and the picturesque, overly cute design seem inappropriate as the focal point for this composition of crystalline cubes. Something more like Lawrence Halprin's Forecourt Fountain in Portland, Ore., dressed up with vines and trees, would not have eroded the impact of the buildings.

The desire for a theatrical design, however, was consciously sought by the developers and architect. To be assured of the easy familiarity and dramatic excitement they were looking for, stage designer James Hamilton was called in for the job. There is no question that the fountain

is very popular with the clientele at NewMarket, and in that respect its design is obviously a right one. It is a shame, though, that something as startling and as imaginatively conceived as The Glass Palace could not have been, as it deserves to be, appreciated in its own right. [David Morton]

Data

Project: The Glass Palace, NewMarket, Philadelphia, Pa.

Architects: Louis Sauer Associates.

Program: originally 20,000 sq ft of commercial and retail space, and 65 apartments, later changed to 45,000 sq ft of only commercial and retail space suggesting the "international flavor" recreational shopping idea similar to Ghirardelli Square, etc.

Site: a 1½-acre city block at Headhouse Square in the Society Hill renewal area facing the Delaware River.

Structural system: steel frame, steel deck with lightweight concrete.

Major materials: concrete foundation, steel frame, aluminum and glass industrial curtain wall. (See Materials list, p. 118).

Mechanical system: cabinet heaters and roof-top heating units; central chilled-water plant.

Consultants: Design Associates, landscape; M. Michael Garber & Assoc., mechanical; Joseph L. Hoffman & Assoc., structural.

Client: Head House Venture.

Costs: \$2.1 million, about \$45/sq ft.

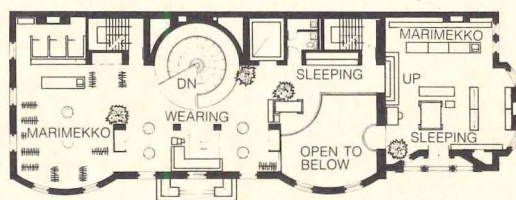
Photography: Otto Baitz, except top, p. 77, Harris/Davis.

From the people who brought you good taste

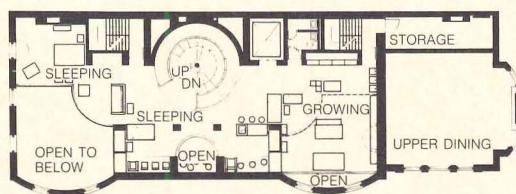
Plans for renovating an old Philadelphia Beaux-Arts mansion into a new Design Research store raised much protest and resulted in a compromise that may not be very satisfying to any of those concerned.

Design Research is the store which made utilitarian, but well-designed, everyday objects available to the public. Although D/R has not become exactly a household word, its expansion, both in its original Cambridge, Mass. location and in other major U.S. cities, is a signal of its obvious success. The latest store to open is in Philadelphia and occupies a prime site on Walnut St.—the corner of historic Rittenhouse Square—in the former Van Rensselaer mansion designed by Peabody & Stearns. For a city without strong landmarks legislation, it is surprising that so much of the old fabric remains, including this building. The house, in recent years, had been occupied by the Pennsylvania Athletic Club until that organization was forced to move out of the city; the building had remained vacant for three years until D/R decided to lease it.

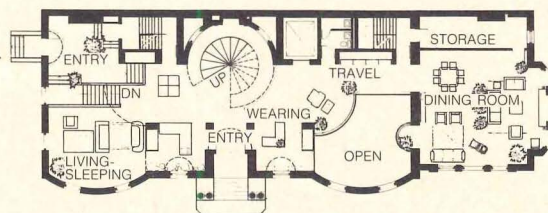
The first plans for the renovation of the building, by Architectural Resources Cambridge, Inc. were predicated on complete demolition of the interior in order to gain more retail floor space in the same volume. Loud cries of protest were heard from various groups, including historians and AIA chapter members, as this was one of the few remaining such houses in the city. The extreme points of view were represented on one side by some historians who wanted the building restored to its former state, and on the other by D/R's interior demolition scheme. It was clear that if too much were demanded of D/R they might break their lease, and under existing laws the owners could, with six months notice, tear the building down if no tenant were found. Therefore, it was to everyone's advantage to reach some agreeable compromise. The architects worked with the AIA Chapter and the Philadelphia Historical Commission to decide what ought to be kept, from an architectural point of view, and what reasonably could be kept without drastically straining D/R's budget. Given the possibilities that might have resulted from undue pressure on either the owner or the tenant, the compromise seems to have satisfied most of those concerned, although there are a few dissatisfied



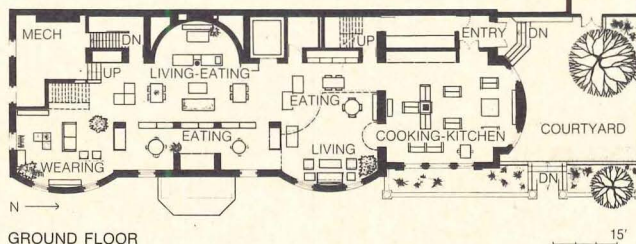
SECOND FLOOR



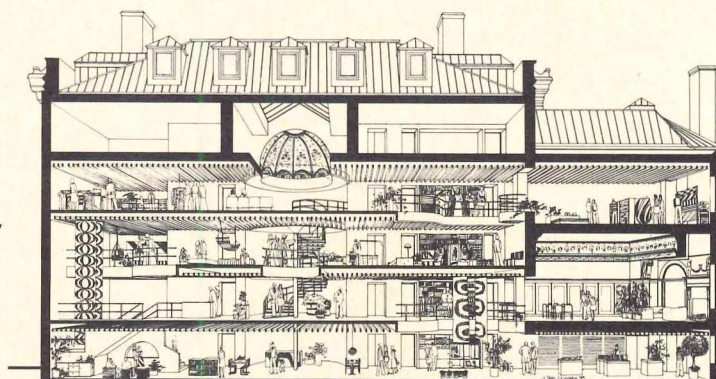
MEZZANINE



FIRST FLOOR



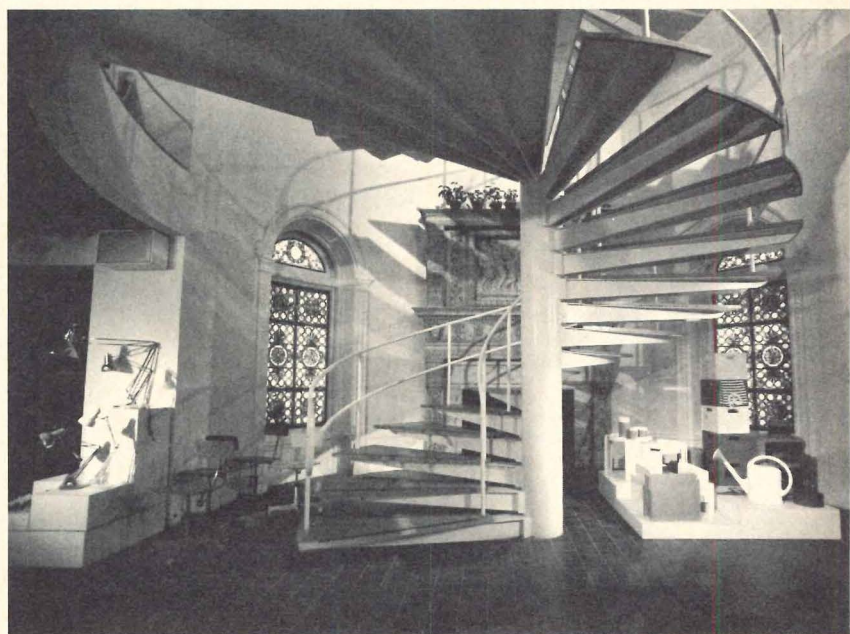
GROUND FLOOR



Located on the corner of Rittenhouse Square, the main entrance to the building is on the side street. A new ground level entrance was added on the square side, visible in the photo (left). The only other alteration was the placement of the D/R logo on the window panes. The original main entry is still used (below) although it presents a formidable set of steps to the public. The neon D/R logo and the new spiral staircase are visible through the new glass doors.



The Doges Room (above) looking toward the new part of the store. New spiral stair (below) is slammed up against the marble mantel.



Design Research renovation

Data

Project: Design Research Store, Philadelphia, Pa.

Architect: Architectural Resources, Cambridge, Inc.

Major materials: existing granite exterior; Interior: quarry tile, carpet, natural finish, 1 x 4 fir stripping for new ceilings, gypsum board, paint.

Consultants: structural, Mitchell Systems; mechanical, Wayne Peterson Associates, Inc.

Photography: Charles Steiner.



extremists who claim that restoration would have cost less.

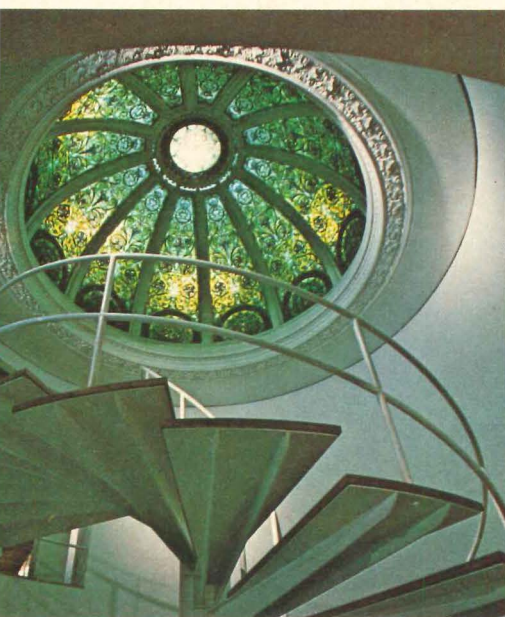
Three rather striking features of the old mansion were retained in the final design: The Doges Room—at the extreme end of the building—which has a ceiling design filled with portraits of the Popes; a circular stained-glass dome on the third floor ceiling, which had once reigned over the three-story circular entrance hall; and a marble mantel with two flanking stained-glass windows on the main floor. Otherwise the building was gutted and new floor levels established to add an extra floor of retail space. The exterior of the building was left virtually untouched, except for the addition of a ground-level entrance on the Walnut St. side of the building. The cool, gray, massive granite façade had been built right up to the sidewalk with the main entry at the top of a formidably steep set of stairs. The building is entered on the original main level, now a white, multi-level interior which has views down to the lower level, up to the upper floors and through to the Doges room. Above the four retail floors are the staff offices and inventory storage, in what once was the servants' quarters.

Management's principal concern about the design from a retailing point of view centered around the circulation; getting people to move through the space from one merchandise area to another as well as up to the other floors. Architecturally, these connections are made visually at certain points where it is possible to look up or down at the other floors. As an architectural device, this type of spatial concept can work well, although it by no means reveals how to get there. Unfortunately, in the D/R store the potential of this device is not fully explored and the overall three-dimensional volume remains rather static.

Management's idea of encouraging vertical circulation was to locate a new staircase in a central and rather unavoidable position, so that customers would be aware of how to reach the rest of the retail space. While this spiral stair occupies a logical area under the stained glass dome opposite the main entrance, it is unfortunately crowded up against a marble mantel and two stained glass windows in such a way that neither benefits from the juxtaposition. The gesture at preserving the old detail appears minimal; the new stair seems somewhat at odds with its surroundings. The dome, one of the most striking features of what remains, is not clearly visible from anywhere but well up on



Entry (above), dome (below), Doges Room (below, right) and two views of selling areas (above, right) showing multi-level spatial connections.

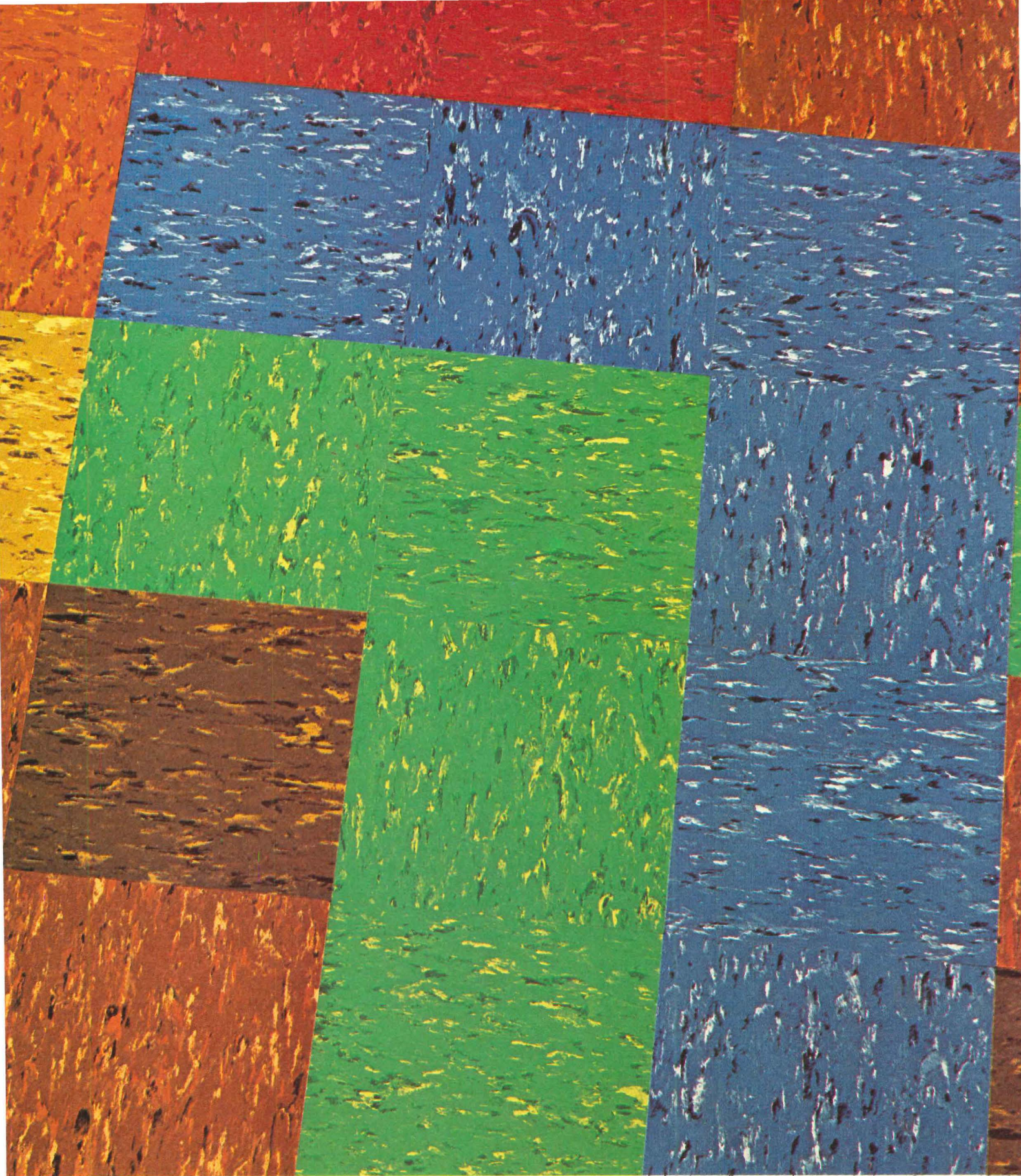


the stairway. While a clear means of circulation in a retail store is a legitimate concern, other D/R stores have dealt with the same problem in more subtle, less obtrusive design solutions. In the new Cambridge store, designed by Benjamin Thompson & Associates, one moves vertically through the half levels without even being aware of using a staircase. While it's obvious that such half-level layouts might not be feasible within the old mansion, it is surprising that both the management and the architects did not learn something from the successful solution already found, since, unfortunately, the obviousness of this particular architectural solution makes a visitor all too aware of the problem. The same concerns could have prompted other visual expressions, ones which would, instead, have been more persuasive and less obvious.

Yet, with all the concern for moving people through the store (and, as a consequence, enticing them to buy), there is no overriding clarity to the spatial organization or the

merchandising effort that would enable or even encourage people to wander through without having to think about how to get from here to there. The "marketlike" qualities of other D/R stores, with their abundance of tactile and visual stimulæ, are missing. Since the solution is too obvious in some ways and not clear in others, attention is drawn to, and preoccupied with, diversions which have nothing to do with the reasons for being there.

But despite the drawbacks of the design, the store will succeed simply because it is Design Research. If people aren't intimidated by the prices, they are not likely to be put off by the lack of subtlety in the design. The colorful banners hung on the outside of the building and plans to open a small cafe in a brick paved courtyard adjacent to the building will lend a sense of life to the otherwise monolithic and somewhat forbidding façade. And in a city where people really use the streets, the markets, and the squares, these will be important additions. [Sharon Lee Ryder]



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The architectural representative—an endangered species

Alvin D. Skolnik

Recent articles dealt with product evaluation which emphasized the need for gathering all pertinent data. A key ingredient is the "communications bridge" between specifier and manufacturer's representative.

A simple fact of life is that the architectural representative (dubbed "Archy Rep" by CSI members) is an absolute necessity; not only for the design professional, but also for the firm "Archy" represents! Why, then, is "Archy Rep" becoming an endangered species?

A commonplace attitude expressed by industry management people is that other manufacturers of similar products are managing without reps and therefore they are not necessary. One manager observed that his company, in providing the representative, had become a standard-bearer for the entire industry while other companies rode his company's coattails. This manager is overlooking one of his own strengths: the commitment his company makes obvious to the industry. This is an important consideration.

What does the design professional expect (and usually get) from "Archy"? He gets: a) introduction to new products; b) catalog updates; c) samples generously supplied; d) information not found in catalogs; e) a link to a higher level of expertise; f) advice on limitations of use or acceptability of modifications; and g) the personal element which promotes easier liaison between the manufacturer and the specifier. A good rep speaks with the cumulative know-how resulting from knowledge of the product's research/development data coupled with actual experience of its use. He knows its strengths and weaknesses.

Most architects would agree that the most critical evaluations must be in areas affecting the building's structural or environmental integrity rather than in areas affecting only cosmetics. They would hasten to say, however, that while it is more important to keep these channels of communications open in certain product lines than in others, no aspect could be neglected or taken lightly. Once the architect takes advantage of all that "Archy" has to offer during the decision-making stage, his decision implies the architect's conclusion that the product specified was optimum for use on the project.

There simply is no substitute for the human element in

this process of becoming or staying informed. Some companies have dropped "Archy" in favor of an "800" toll-free telephone number. From my own experience, this is a dismal failure. Invariably when calling one of these numbers, an inordinate amount of time is spent describing your project conditions just so you can ask your questions. Then, you find your call must get transferred and you begin your story all over again—or "Mr Jones" who *can* help isn't in and will call you back. Days later when contact is finally made you are referred to their out-dated catalog. (No "Archy," remember?) Need I tell you what happens to the follow-up? What do I do? I call the competitor's "Archy Rep" and specify his product.

Guess whose product gets offered as a substitution! Now the "Rep-less" manufacturer wants me to accept his product for use on our project when *he* doesn't know how it will be used, the conditions of use, or anything about the project except how much of his product is needed by when. My questions about his product are still unanswered. Now, of course, "Mr. Jones" is readily available—except that his perspective is different and, frankly, so is mine. A new doubt enters my mind. Where will "Mr. Jones" be when his expertise is needed during the installation or guarantee period? Isn't part of what our building owner buys the commitment a manufacturer makes with his product and his backup? Why shouldn't a building owner have the benefit of dealing with the company with the greater commitment, if the quality of the products is otherwise equal? Money savings? Not necessarily. "Mr. Jones'" product isn't always cheaper!

There is no real way to measure the additional sales brought in by a good rep any more than an architectural firm can assess the number of problems it didn't face because of a well-written specification. What about not getting specified, or being substituted for? Presupposing that a proper evaluation is made by the specifier, and he is satisfied as to the suitability and distinguishing characteristics of a product, there is nothing improper about writing a proprietary specification. In fact, the United States Supreme Court recently upheld the decision in *"Whittier Corp. vs. Paddock, Inc."*, U.S. District Court, Mass., Dec. 1974, establishing the opinion that proprietary specifications do not violate anti-trust laws. Paraphrasing the courts, they indicated that trained professionals make informed judgments on the systems that best serve their clients' needs and that other suppliers can qualify as "equal" only when the specifier chooses to waive specifications or permits the supplier to also bid in order to obtain a better product for his client.

Architects who perform their duties to clients with responsibility and professionalism will write carefully considered specifications and will tightly control them. They will keep the client advised on product quality and performance. It is the role of "Archy Rep" to bring to the specifier the knowledge of the product and the commitment of the manufacturing company which will provide the basis for use of his product. □

Author: Alvin D. Skolnik, FSCI is Director of Research and Specifications for Skidmore, Owings & Merrill, New York.

Open and shut

Irving Oxman

With the seemingly endless choices presented by door manufacturers, architects may need a refresher course: about doors, frames, and hardware, package vs. custom.

Let us consider one typical opening consisting of a door, hardware, and a frame. The door, basically a movable barrier, will be selected to meet a need and function as determined and defined by the designer or specifier. It may swing, slide, fold, coil, roll, revolve, turn, telescope or in some way be moved manually or under power to clear a passage through a wall or partition. We will concentrate in this article on sliding and swinging doors. The door may be starkly functional or make a decorative statement. It may be made of wood, metal, glass, plastic, or a combination of these. It may introduce a significant weakness into its wall, or provide an acceptable (and if need be, certified) resistance against fire, weather, temperature, corrosion, chemical fumes, humidity, unauthorized entry, noise, radiation, abuse, ordinary wear and tear, etc.

The motion and operation of the door will be guided and controlled by various fittings and parts generically called *hardware*. The hardware may be chosen from available catalogs and supplied, as made to predetermined standards, to suit the function and operation originally specified for the opening. The frame will accept the selected hardware, be sized to fit the door and be prepared with suitable accessories for installation into the wall.

This door, door frame, and hardware may each be separately investigated, choices made and coordinated for performance, economy, and compatibility by the architect-designer-specifier. Or a package serving the need may be sought, placing the responsibility on one supplier. Compromises may be expected with either approach, but perhaps more so with the latter. Packages may be put together at the manufacturer's level or by a local distributor who may extend it to include other items (such as wall studs).

A package may be devised as much to reduce competition by grouping several products under one bid as to sim-

plify responsibility and inter-product coordination. Manufacturers of such doors often prefer to assume and retain full responsibility, from design and selection of all components through erection. Such service constitutes a total package, and lesser packages may be available, but except for replacement parts the individual components are not usually marketed separately. Options exist between packages, accessories, and suppliers, but application recommendations, design suggestions, advice, and specifications are readily available from most manufacturers.

Sliders

Doors may slide vertically or horizontally, to either side or divide to both sides. Horizontal slide units are more common and may be manually or power operated. Most sliding units are top-mounted and floor-guided. Their uses can be generally thought of in three categories: residential, industrial/commercial, or special purpose.

In residential use, sliding doors most commonly are used for patio or terrace access and closet doors, although pocket sliding installations also are possible for closing off rooms. Many of these units are packaged, especially for the exterior-interior patio/terrace/balcony applications. Doors are made of either wood or aluminum, with tempered glass for safety, and the frame (also of wood or aluminum) may have an optional thermal barrier to reduce heat loss. Door latch and lock are often integral with the door pull or are mounted adjacent to it on the leading stile of the door. Most of these packages offer availability of replacement parts and optional insulating glass, and are manually operated. Screen panels are optional.

For industrial applications, doors are available with numerous options. Most are, again, top-hung, with hangers and trolleys secured to the door and overhead tracks fastened to the wall or header. Among the options: automatic opening and closing devices, and other power operation packages (electric eye, floor plate, manual button control, etc.); safety seals at door edge to avoid bodily injury between jamb and door; various locking and security devices; and fire ratings (must be used with UL listed hardware to qualify for a UL label). Commercial installations, usually with floor-actuated power operators, commonly serve entrances to markets, banks, airports, and office buildings.

Author: Irving Oxman is technical director for Superior Fireproof Door Company, Scarsdale, N.Y.

Sliding units are not *always* packaged. In some cases, notably closet or pocket doors, frames are not needed since their counterpart is built in place.

Swingers

Swinging doors, frames, and hardware can be found marketed separately or in packages. Aluminum units are most frequently packaged, with hardware, glass, and sometimes with frames, although standard and custom-made elements are available.

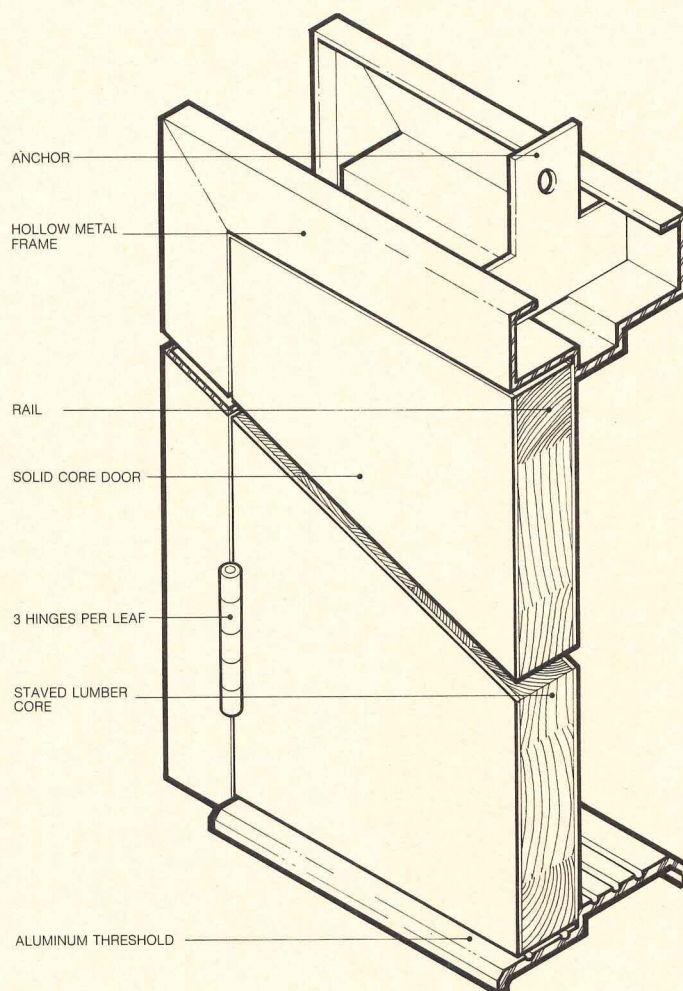
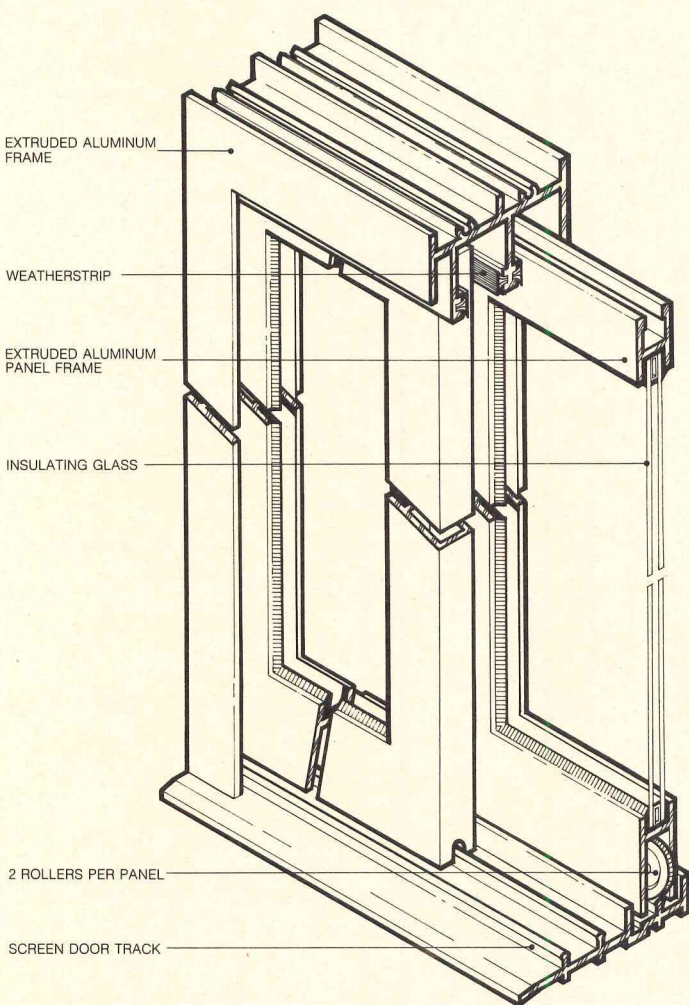
Aluminum is lighter than steel, although in some forms it is less strong. Therefore, it is better suited for fabrication from thicker extruded shapes, electrolytically coated (anodized) to form a clear or tinted protective surface oxide. Aluminum doors and storefront assemblies are normally made up of proprietary extrusions, and door hardware is usually made specifically for packaging with the particular manufacturer's assembly. This factory-installed hardware, purchased in quantity, gives the door manufacturer a buy-

ing advantage. There are other advantages to these packages. Undivided responsibility and full service are normally provided. Any factory mistake can usually be corrected easily by taking another piece from stock.

Door extrusion types are made to suit the location and projected amount of use and abuse. Stiles of full-glazed doors are usually offered in narrow, intermediate, and wide, depending on traffic demands. Also available are solid center panels, solid lower panels, and a wide range of decorative and functional hardware especially designed for aluminum doors.

Swinging doors are fabricated as rigid slabs from various materials. Sheet metals, particularly steel, are readily cut, stamped, folded, welded, assembled, and painted and permit a wide diversity of size and shape. Extrusions, on the other hand, discourage deviations.

Steel doors may be evaluated by construction features: **Full flush.** Hollow metal doors are defined as having faces of at least 20 gauge thickness. Eighteen ga. doors are most



Typical assemblies, showing principal door and frame components, of a sliding unit (left) and a hinged, swinging unit (right).

Doors: package vs. custom

typical, 16 ga. not unusual, and heavier gauges, though infrequently seen, are available from most custom fabricators. Thicknesses $\frac{3}{16}$ in. and over are properly steel plate, not sheet steel. Faces enclose various cores, as follows: 1) Internally structured core a) continuous vertical stiffeners welded to each face, interlocked or welded together. b) horizontal stiffeners welded to each face. c) combined. Voids between stiffeners are sound deadened or insulated to various degrees. Spacing between stiffeners is meaningful. 2) Manufactured core. Kraft paper honeycomb, which may be resin-impregnated, bonded to both faces. Cell size is meaningful. Composites. 3) Solid core bonded inside both faces allows lighter than 20 ga. steel. a) pre-foamed slab. b) insulating core foamed inside assembled door pans. c) mineral core.

Panel flush 1) Vertical stiles and panel. 2) Stiles and rails and panel. Panel core construction same as for flush doors. Exposed face seams (filled face seams are not economical option in comparison to full flush).

Recessed panel 1) Stiles and rails with thinner panels, generally composite, with fiber or asbestos core steel-faced. Transition to panel may be molded.

All of the above door constructions are available with fire ratings from various manufacturers. These doors may be custom made or standardized and/or stock. A wide selection of vision light preparations, louvers, grilles, finishes, and sizes are catalogued as standard, and of course custom-made doors, as the name implies, are virtually unlimited in design possibilities. Hollow metal doors are $1\frac{3}{4}$ in. or $1\frac{1}{2}$ in. thick. Other thicknesses can be made to order.

Frames customarily are made of thicker sheets than the doors they carry. A supporting frame for a hollow metal door should not be lighter than 16 ga. and proportionately heavier for larger doors. Labeled fire-rated frames may not be less than 16 ga. Reinforcements inside both door and frame, to which the hardware will be attached, should be heavy enough to engage at least three screw threads and shaped or braced to resist deflection.

Standard frames are "pre-engineered" or a similar term is used to indicate that the frame manufacturer has packaged within his standard design those features which he feels will best satisfy the broadest needs. Standard hardware may be considered for a $1\frac{3}{4}$ in. swinging door to be three $4\frac{1}{2}$ " x $4\frac{1}{2}$ " regular weight template hinges and a cylindrical or mortise lock or latch.

Other ornamental metals, such as brass, bronze, and stainless steel are incorporated in doors and frames, but are usually custom designed and not packaged. They are completely flexible within manufacturing limitations, and are produced in accordance with the architect-designer's details and specifications. Performance, it should be noted, is generally the responsibility of the designer.

Wood doors

The lowest cost stock flush slab doors are still most often made of inexpensive wood veneers or hardboard, bonded with interior- or water-resistant exterior-grade adhesives over various hollow cores and wood stiles and rails.

Wood is a familiar material, easily worked with basic tools

in the field. Frames can be built in place with wood studs and wood trim. A millwork supplier may choose to fit and machine and often prefinish and prehang doors at his shop before delivery. Some wood door manufacturers offer a prehung package, factory assembled with a split jamb (adjustable depth) wood frame.

Wood doors can be used with wood or pressed metal or extruded aluminum frames. Metal frames may be prepared for standard hardware or to order, to meet specified schedules. The hardware may be included in the door package or come from a builders' hardware supplier under a separate contract. In the latter case, consideration should be given to the need for coordination of hardware templates and schedules which may be necessary to satisfy a particular specification.

With different cores, wood doors offer fire ratings from 20 minutes to $1\frac{1}{2}$ hours. Fire doors are characteristically prefitted for metal frames and premachined for standard or scheduled hardware. These doors can be faced with hardwood veneers, plastic laminates or various overlays for paint finish and are frequently factory finished. A packaged exterior entrance door system has in recent years become popular in residential use for replacements, as well as for new construction. This system includes a door slab made up of a light gauge steel-faced insulating foam core, enclosed with an internal wood perimeter frame, prefitted KD wood or steel jambs and head fitted with a magnetic weatherstrip, an aluminum sill or threshold, hinges, and screws. The door slab may be flush or prepared for lights with or without glass, and/or with applied decorative panel molding in many designs. This package may also include side lights or panels made to match the door and necessary additional wood or steel frames. A similar package with all wood or wood-faced doors is also on the market.

Hand-carved, panelled, specially matched veneers, extra thick, extra wide or high, or similar "decorator" type doors are not often packaged. These are generally higher priced, and custom made. The hardware for such doors is equally individualistic.

Door frames

Standard frames are available for standard wall conditions. Anchors are commonly available for masonry walls, stud walls, solid partitions, and other conventional wall systems. Anchors may be welded in or be of interchangeable clip-in types for standard frames.

Opening sizes have been standardized and most standard frame fabricators catalog the same sizes. A 3' x 7' opening is typical for $1\frac{3}{4}$ in. doors; $1\frac{1}{2}$ in. doors are generally 6'-8" high; widths vary from 2'-0" to 4'-0"; standard heights also include 7'-2" and 8'-0". Frames may be arranged for double doors swinging in pairs.

Custom frames, by definition, are "postengineered" or designed and fabricated to order. Frame profiles may be bent up on a press brake or roll-formed, in whole or in part. Roll forming is more appropriate for high production and many frame manufacturers roll only a portion, such as the stops or backbands, of a frame, and close up the rest of the section on a brake. Custom frames are more likely to be made entirely on a brake.

Combination units with side and/or transom lights can be assembled by a custom manufacturer, tailor-made to the

architect-designer's concept or assembly by a standard manufacturer or local distributor from "sticks." Sticks are preformed pre-engineered components for jambs, heads, mullion bars, transom bars, sills, and glazing stops, which can be cut to size, fitted, and welded to accomplish almost any desired drawn elevation. KD frames are one variation of stick components where the members are pre-cut and prepared for a nonwelded joint. Sticks enclosing a door opening have standard hardware preparations located for use only with the doors made by the manufacturer of the components. Special elevations thus can be packaged and assembled from stock-standard sticks and include doors and standard hardware. Custom-made special elevation frames offer custom profiles or hardware preparations for any condition, and may also be packaged with hardware.

Knocked down frames

Steel door frames are obtainable KnockedDown or Set Up and Welded. KD frames may be standard pre-engineered or stock sections, or may be made to order. KD frames generally cost less at the factory. There are two options for shipping KD frames, the least expensive being bulk pack—similar members bundled together. A KD individual pack—more costly—comprises parts for each frame bound together and marked for one type of opening. A KD frame which is assembled before being erected into the wall may perform, under otherwise equal conditions, practically as well as a welded frame, if the corner connections are well designed and properly joined.

A KD frame designed to be installed over a roughed opening in a finished stud wall and friction-fitted or wedged in place cannot be expected to match a welded frame secured to the wall structure. However, such frames do perform satisfactorily with light doors. Installation costs are lower and delivery delays not as serious. The quality of the finished opening and the final "in place" cost—based on the ability, experience, and hourly rates of labor in the field—should be thoroughly investigated before specifying KD frames.

Hardware

American National Standard Institute specifications for door and frame hardware preparations establish standard mounting (cutout) dimensions and locations. The use of such standards is endorsed by custom manufacturers and the trade organization with which many of them are associated, as well as the standard door manufacturers and their trade group. It should be noted that a considerable rift exists between these two groups over the basic hardware locations. Each side has persuasive reasons for their stand. Since even among standard manufacturers there is sufficient variation in hinge locations to preclude using a door by one manufacturer in a frame by another, this disagreement may be no more than a competitive gambit. The ANSI specs however, permit hardware made by any of the many hardware manufacturers that subscribe to these standards to be used interchangeably by any of the custom or standard fabricators, without special template coordination.

Federal hardware standards and specifications have been established, and manufacturers basically conform products to these standards, although other grades of hardware are also available. Given the vast variety of func-

tion, material, finish, size, and distribution possible, it can be expected that a considerable amount of hardware will be made to order. That is not to say that a designer or specifier is entirely free to design his own pieces, but the range of cataloged items is broad enough to permit free expression, within that specifier's self-imposed limits of economy and delivery time.

Most manufacturers, however, stock a "bread and butter" line of standard items which are proven repeat sellers. Different manufacturers might inventory different items, but for swinging metal doors one should expect to find "on the shelf": 4½" x 4½" plain-bearing and ball-bearing template butts; cylindrical heavy duty (US 161) and standard duty (US 160) passage latches, office function locks, storage room locks, and privacy latches; the same functions in a heavy duty (US 86) mortise line, and probably again in the residential grades; a universal size non-handed surface closer for parallel-arm, regular, or top jamb mounting; flush bolts; exposed vertical rod and rim panic exit devices and mortised and rim deadlocks.

Local hardware distributors and dealers may also stock hardware favorites, and many can supply standard doors as well. They offer a package at a local level, directly or through access to the stocks of manufacturers they represent. Wood doors can be packaged with metal frames and standard hardware. The wood doors may be machined by the door manufacturer, the distributor, or the installer to complete the package, or it may include only the frames and hardware, with the doors in a separate contract. Some custom and some standard hollow metal manufacturers are prepared to provide hardware with their doors and frames directly. Standard manufacturers stress standard hardware, but some will prepare schedules and assume full responsibility for the coordination and supply of *all* hardware.

Standard hollow metal can be modified by the standard manufacturer to receive nonstandard hardware, but often such engineering extras lift the price and delivery schedules above comparable custom hollow metal. For hollow metal doors the specifier may encourage subcontractors or material suppliers to assemble and bid several sections of the spec under one responsibility, but need not impose restrictions or reduce standards. He should allow packages, rather than require them, and be prepared to assess and accept the possibilities as they arise for each job.

Doors in general

Door manufacturers generally make frames. Frame manufacturers do not always have the equipment and experience to make doors. Standard door and frame manufacturers are typically large operations. Some custom manufacturers are as large, most are mid-sized.

Standard manufacturers rely on a distributor network to sell their product. Custom manufacturers sell directly, bid to general contractors, or use commission agents or representatives and dealers. Dealers sell in their own name and carry the contract, frequently putting together packages using the products obtainable from several sources. Dealers and standard door distributors are often hardware distributors as well.

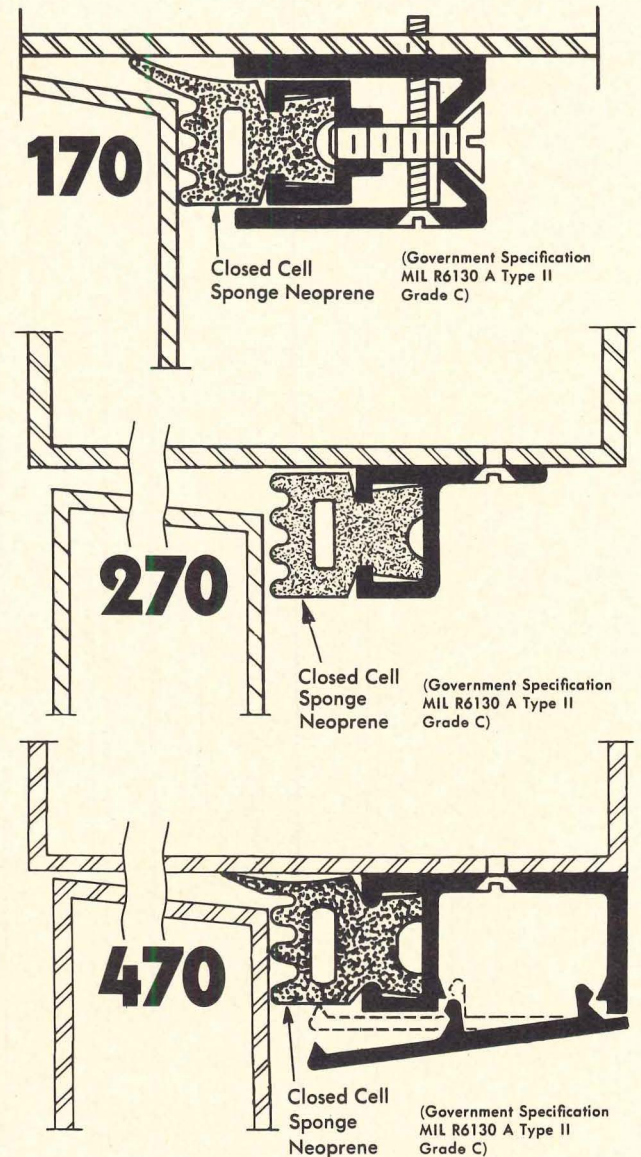
One rule holds for either custom-made or standard items: The greater the quantity required—up to a point—the lower the unit cost.

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The engineer Kahn

18 Years with Architect Louis I. Kahn by August E. Komendant. Englewood, N.J., Aloray Publisher, 1975, 192 pp., illus., \$15.

Reviewed by Leonard K. Eaton, professor of architecture, University of Michigan, Ann Arbor.

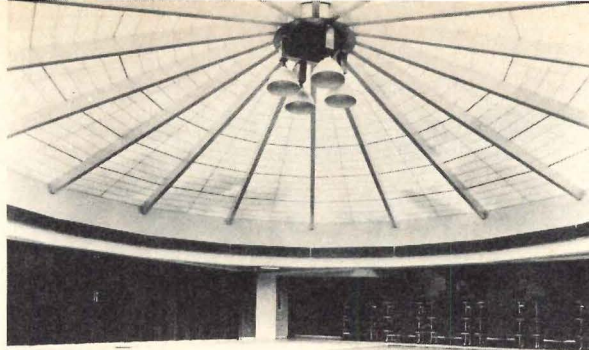
"No architect is a hero to his engineer."

"No ballcarrier is a hero to his blocking back," runs an old football adage. Any review of this volume should certainly begin with the obvious paraphrase. For the general public and for the practitioner, no phase of architecture is more interesting than the relationship between architect and engineer. It is safe to say that never has there been a more revealing book than this one on the engineering side of the affair.

The volume begins with the meeting of the two men in 1956, when they discovered that they both came from the same part of the world—Estonia. Apparently they hit it off well from the start. Interestingly, both men seem to have been at about the same stage of their careers. Kahn had a great reputation as a teacher and critic at Pennsylvania and Yale, but had done no major buildings except the art gallery in New Haven. Komendant, somewhat younger, had served in the U.S. Army during World War II, and had written a book on structural engineering, "full of integrals and complicated formulas." At the time he was running a small precasting/prestressing plant in Lakewood, N.J. and his reputation was almost as underground as that of Kahn. The latter took his students over to the factory for a visit, and they learned much about the industrial process. Shortly thereafter followed the first great collaboration of Kahn and Komendant on the Richards Medical Building.

The main body of the book consists of nine chapters, each devoted to an executed building or project. Each chapter is filled with excellent anecdotes, and is illustrated with sketches by Kahn, engineering diagrams by Komendant, and construction photographs, many of them never before published. The Richards Medical Laboratory seems to have gone ahead with relative smoothness, marred by only a few disputes with contractors. By way of contrast, most of the other jobs were full of discord between architect, engineer, contractor, and oftentimes the client as well. The famous Salk Labs were a fine case in point. Fuller Construction Co., with much experience in steel high-rise building, was the contractor, and convinced the trustees that prestressed concrete was impractical; they seriously considered giving the job to Charles Luckman, who was known as a "fast-working" architect. Komendant's account of his remarks to a meeting of the trustees and Fuller Co. is so good that it deserves to be quoted in full:

"First I like to remind you of your own statement in 1951, when I, just recently back from EUCOM, was looking for a [continued on page 98]



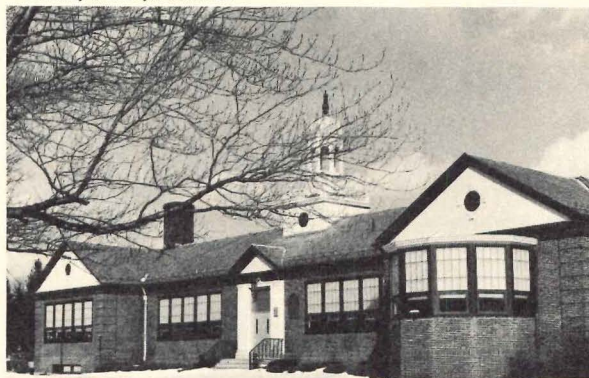
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Books continued from page 97

position with Fuller Company. You said to me, 'You don't have experience with American methods of construction' and suggested that I start from the beginning. I asked, 'How long it takes to work up my career' and you answered, 'About 15 years.' Now I tell you, you need at least five years to have enough experience to criticize a precast-prestressed concrete design, which is still a European method of construction. And second, Kahn is an excellent architect and he is my friend. I would not work with Luckman or anybody else on this project. Also, you claim that Kahn is not able to redesign the laboratories in the time available. But is Luckman, who is not familiar with the problems involved? You know very well that the major part in the laboratory design is structural and has to be done first, so that Fuller can start with construction as early as possible. Is not your reason for keeping me that you know I am acquainted with all the problems already and will keep the deadline agreed upon? I can assure you, I am able, if given a free hand, to make the structural design and provide working drawings so that there will be no delays in Fuller's work. That is all, gentlemen, make up your minds!"


Of course the Salk project went ahead, not without the Fuller people causing numerous difficulties at different stages. Komendant never hesitates to name names, and the entire book is full of equally engaging anecdotes.

There is, in fact, an immense amount here for students of Kahn's work to mull over. Komendant was evidently not only a good friend, but a hard critic. He feels that the capital for Bangladesh was developed without adequate constructive criticism and that Kahn's ideas did not develop to their full power. Among all the buildings on which they collaborated he thinks that the Kimbell Art Museum in Fort Worth was the greatest success, although it, too, was beset with difficulties. At the completion of the building Komendant's contribution was omitted from a newspaper, and Komendant refused to attend the opening ceremonies despite the pleas of the director and Kahn himself. He adds that Kahn never gave any of his associates credit, regardless of how great or extensive their contributions might have been. This statement, as far as the reviewer can remember, is inaccurate, and it is in fact belied by the letter which went to the Jury of Fellows of the American Institute of Architects. It is dated 1 Nov. 1973, it nominates August E. Komendant for the Allied Professions Medal, and it is signed Louis I. Kahn.

Komendant remarks, with perfect truth, that in his office Kahn was dictator and that he never allowed a successor to develop. This argument, too, may have an element of truth, although there was no one who was more respected in the profession or more beloved among students than Kahn. In a final chapter, "Kahn as Poet-Philosopher and Architect-Teacher," Komendant sums up his views of the complex man. His judgments, thoughtful and well-informed, are obviously influenced by his very real affection for Kahn and his feeling that in the end he was a victim of the business culture which he unwittingly served. The tragic story of the Kansas City Tower ought to be read in this light. Kahn's opinions before he left on his final trip to India was that he had been used. "The vision of Kahn," says his engineer, "was killed by greedy men who cared only for money." □

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A tough team to beat.

A close-up photograph of various Sargent door hardware components. In the foreground, a polished brass cylindrical lock is shown with its handle and a square exit device. Behind it, a door closer mechanism is visible, featuring a long, rectangular body and a mounting bracket. The background shows more of the door frame and hardware, all in a warm, metallic finish.

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Fox Point is the third Prowswood Open Space Apartment Community to choose Maytags for the laundry rooms.

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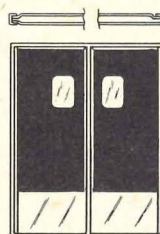
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LWP 4: Same as "LWP 3" except with decorative high pressure laminate both sides. Decorative doors are practical with protective accessories. Door illustrated has 12" high Base Plates and two sets of Bumper Strips.



SCP 5: A Solid Core Door 3/4" thick. Illustrated door has Anodized Aluminum, Top Panels, 18 gauge steel center panels (SS front, Galv. rear), 14 gauge high carbon steel kick plates. Write for options and other Solid Core Door models. Applications same as "LWP 3", a heavier door but same easy action.

SCP 8: A Solid Core decor door. Illustrated door has 18" high Base Plates and Edge Trim (18 gauge Stainless Steel). Decorative High Pressure Plastic Laminate above Base Plates to top of door both sides. For Food Service and other areas where Solid Core Decor doors desired. Write for other models and options.



SCP 8



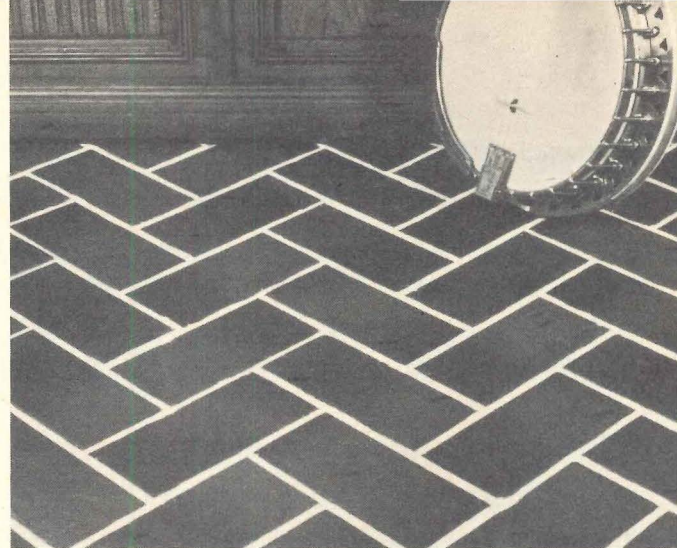
SCC 1: Gasketed, Solid Core Door 3/4" thick. Illustrated door has Anodized Aluminum top Panels and 48" high 18 Gauge Stainless Steel Base Plates. For Refrigerated areas, Work Rooms, Processing and Cooler to Processing. Write for options and accessories. Ask about 1 1/2" thick Foam Core Doors.

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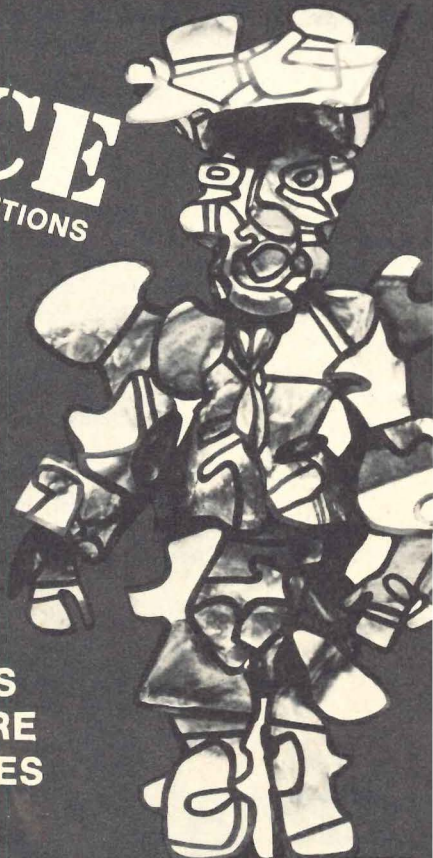
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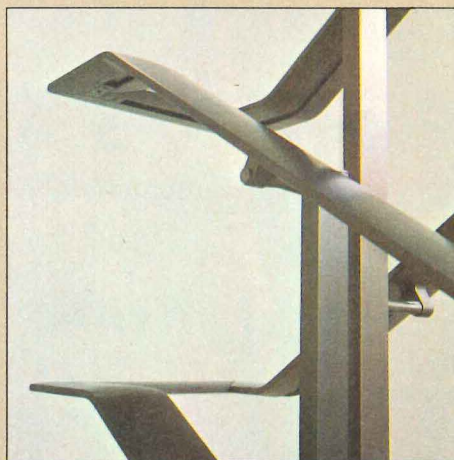
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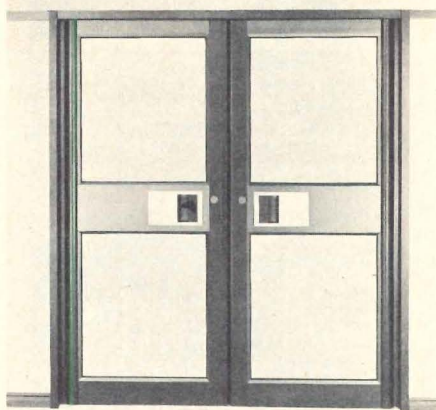


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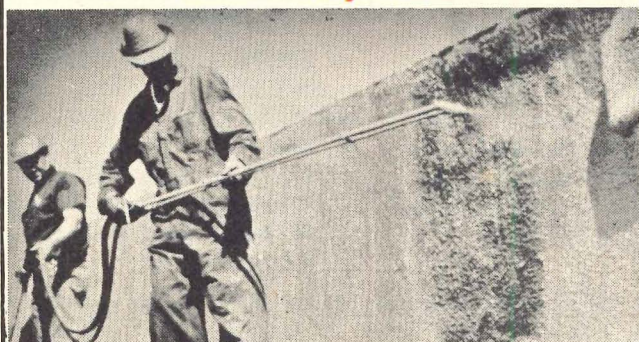
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[continued on page 106]

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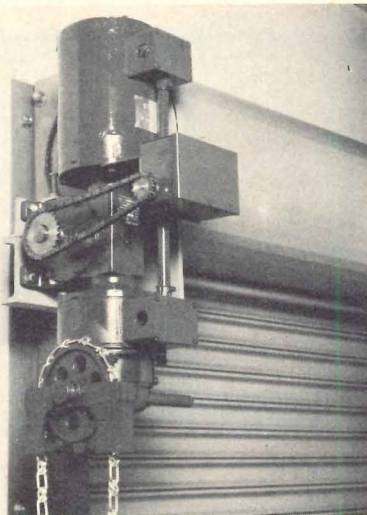
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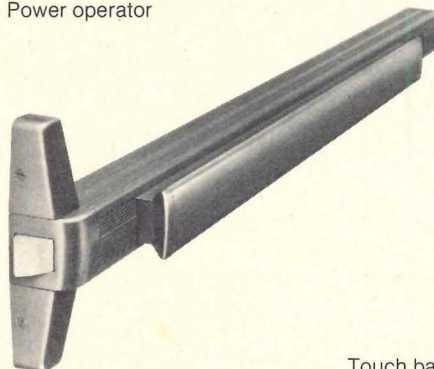
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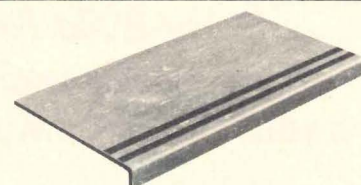
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 [continued on page 108]

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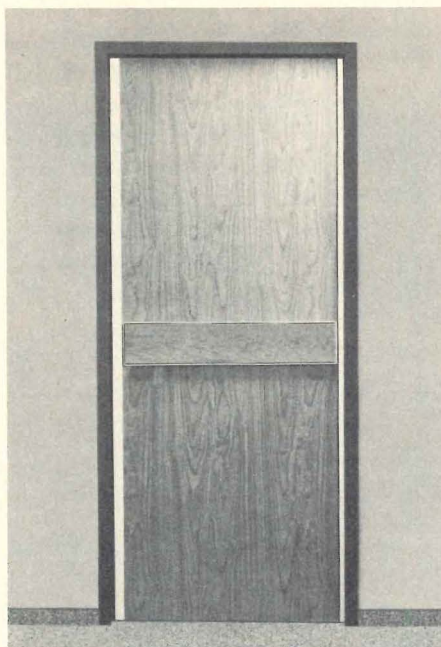
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Plastic bifold doors made of high impact polystyrene vacuum formed to give the appearance of fine custom millwork are available in raised panel and full louvered design in a complete range of 6'-8" high door openings. They come completely assembled, use conventional hardware which is included in the package. H.C. Products Co. Circle 109 on reader service card

Literature

Total-door is a flush panel continuously supported on both the hinge and latching sides by means of a special hinge and locking channel. There are no projecting knobs, levers, or hinge pins. The door, hinges, and control mechanism are all one inseparable unit. Locking channel is an 18 gauge rolled metal or extruded aluminum member shaped like an I-beam which pivots on the door and which is operated by the control mechanism. Locking channel is available in four metals and various finishes. The hinge is a 14



Total-door

gauge cold rolled steel or extruded aluminum member. Core material is a rigid polystyrene foam which is bonded to the door skins to provide strength, stiffness, flatness, and impact resistance; it also is said to reduce sound and heat transmission. The door surfaces are made of roller leveled cold rolled electrogalvanized and bonderized steel in 18, 20, and 22 gauge metal.

Brochure gives jamb, head, and sill details, door and frame size, suggested specifications and operating mechanism section detail. Openings. Circle 201 on reader service card

Entrance systems of door, framing, and hardware in a clear anodized finish or bronze or black offer a choice of integrated frames to meet varying dimensions. Three stile widths are available: the "190" narrow stile door; the "350" medium stile door; and the "500" wide stile door. Included in entrance package is a full range of operating hardware. Shown also are the Entara entrance designs designed specifically for monumental construction. Basic door stiles and rails are deeper, heavier, and stronger than those in any other Kawneer door. Four-color brochure illustrates and describes line. Kawneer Architectural Products. Circle 202 on reader service card

Hollow metal doors and frames including custom doors and frames, frames for multiple dwellings, sliding closet units, and sound control units are described and illustrated in catalog. Also included are construction and installation details, specifications, and dimensional drawings. Williamsburg Steel Products Co. Circle 203 on reader service card

Balanced door entrances in aluminum, stainless steel, or bronze are packaged units consisting of door or doors, and frame with the operating mechanism as an integral part of the unit. [continued on page 110]

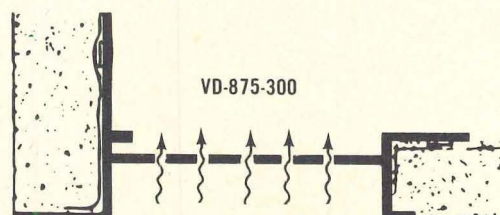
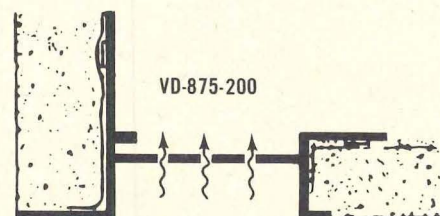
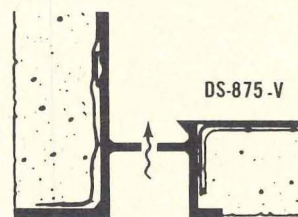
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Ugly soffit stains often spoil an otherwise beautiful job. They also rob you of time and dollars spent on callbacks. Fry Drip-Screed used as a drip mold protects you from soffit stains, also gives you cleaner, razor sharp edges. Now available vented, too, to permit greater air circulation and compliance with codes. Made of rugged extruded .050 aluminum with clear plastic coating (per Federal Specification TT-E-529 Class B). For detail sheets and/or samples, write today.

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up front or out back....



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There are Kinnear closures that let you secure a loading dock, block a fire or turn an entire store or lobby into an intrusion-proof 24 hour-a-day showcase.

Kinnear Rolling Grilles provide an impenetrable barrier to people and even very small objects. There is no hindrance to the passage of air or blockage of sight. In sheltered areas, such as shopping malls, the grilles may be used in place of regular store-front walls or display windows. In exterior installations they provide unrestricted vision as well as protection when installed outside regular windows. (For fullest protection possible, Kinnear Rolling Doors may be used in conjunction with the grilles.)

When not in use, Kinnear Grilles, like Kinnear Doors, retract out of sight above the opening.

Available in three attractive designs, Kinnear Rolling Grilles also are ideal for restricting entry into "off-limit" areas in commercial buildings, or anywhere it

might be desirable to screen off selected areas from time to time. They do not hamper airflow or lighting.

Meanwhile . . . back on the loading dock, time-tested and proven Kinnear Rolling Doors provide the most efficient closure available. Tough, rugged, designed for constant commercial-level use, they operate vertically, requiring no valuable floor space to allow for swing. And they can handle an opening of practically any width and height.

Both grilles and doors are available for manual or power operation. Power units may be remote-controlled.



Write today for up-to-date catalogs on Kinnear Rolling Grilles and Doors.



Saving Ways in Doorways Since 1895

A DIVISION OF **Harsco**

1900 Fields Avenue, Columbus OH 43216

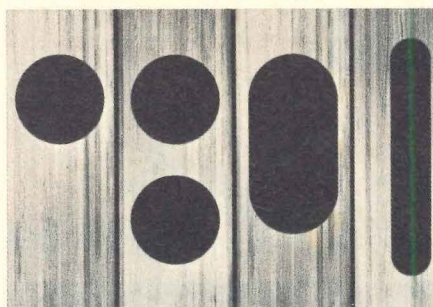
Factories: Columbus OH 43216 • San Francisco CA 94124
Centralia WA 98531 • Toronto, Ontario, Canada

Operating mechanism consists of two principal parts; a torsion type spring closer concealed in the torque tube at pivot jamb of frame and a hydraulic checking device concealed in the top door rail. Brochure shows details of doors and mechanisms. Flour City Architectural Metals. Circle 204 on reader service card

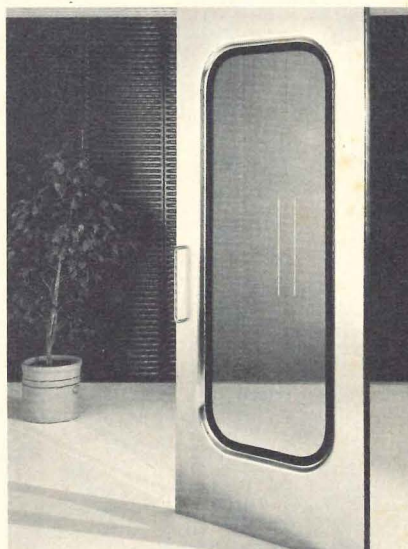
Door closers and life safety sentronic closer/holders for fire and smoke barrier doors, detection devices for early warning and control of fire are shown in brochures which give features of each type of closer, installation details, color and comparison charts, and finishes. LCN Closers. Circle 205 on reader service card

Warnel System 7 glazed doors are offered in natural metals and color finishes—stainless steel, architectural bronze, bronze anodized aluminum, and aluminum with acrylic colors. Standard colors are white, yellow, orange, blue, and black. Hydroformed metal faces curve from metal to glass, eliminating all surface joints. All accessory hardware is integrated with door. The black edges match the black neoprene glazing gasket. Standard sizes are 3'x7' and 3'x8'. Transoms and sidelights are available in various sizes.

Laminated oak and redwood doors and panels have 3/4-in.-wide laminations in sizes 3'x8'x1 1/4" and 3'x10'x2 1/2", with a light natural



Laminated oak and redwood doors (above)
Warnel System 7 door (below)



oak finish. Redwood doors come in 1 3/4-in.-wide laminations in sizes 3'x8'x2 1/2" and 3'x10'x2 1/2" in a light natural redwood (handrubbed oil finish). Tops and bottoms of doors are protected with continuous bronze plates. Full-size templates for glazing openings are provided.

Panels are carved in clear all-heart redwood, Honduras mahogany, and other woods by special order. Complete doors come in natural redwood unfinished or with dark walnut oil finish. Brochures are available from Forms & Surfaces. Circle 206 on reader service card

Hollow and solid core wood doors, fire doors, sound retardant and x-ray doors are all shown in two-color catalog. Also included are data on costs, coatings, and surfaces, product and architectural specifications, and fire door data. Weyerhaeuser Company. Circle 207 on reader service card

Rolling doors and grilles, rolling fire doors, loading dock seals, rol-top doors and electric operators, and rolling door power operators are shown and details given in separate brochures that are available from Kinnear Corp. Circle 208 on reader service card

Special services doors such as roof scuttles, floor, pit, and sidewalk doors, and fire vents are illustrated and described in catalog. Also included are specifications and schematics. The Bilco Company. Circle 209 on reader service card [continued on page 112]

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Decorative thermoplastic rail covering conforms smoothly to curves, spirals, angles. Provides an attractive accent (7 colors), firm grip, freedom from maintenance. Installs easily in shop or on the job. Profiles to fit standard railings and pipe.

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a study in comparative bacteriology

by Prof. Dr. FRANCO MARZULLO, Romano
Bacteriologist, Council of the Institute
Ospedale di Modena

As the result of the C. I. S. R. of Milan, research has been carried out with the aim of establishing, on the surfaces of various materials, the rate of bacterial growth, or the rate at which surfaces were subjected to special treatment and which were kept in laboratories.

- 1) The degree of spontaneous contamination after contact with raw, polished and metal.
- 2) The degree of bacterial contamination by means of chemical and physical agents.
- 3) The materials tested were as follows:
 - a) Stainless steel
 - b) Anodized aluminum
 - c) Raw aluminum
 - d) Dressed aluminum
 - e) Enamel plate
 - f) Dressed plate
 - g) ABS polymer
 - h) Polystyrene
 - i) Polytetrafluoroethylene (PTFE)

MATERIALS AND METHODS
For our research we used two types of control product (measuring 30 x 50 x 2.5 mm) obtained by ultrasonic face and left in dry laboratory conditions.
A) The procedure of contamination was as follows: the sliding and group. The bacterial culture on the material was then established in advance of the tests and was then checked after 24, 48, 72 and 144 hours.
B) The degree of contamination was followed by studying the development of recognized colonies of staphylococcus aureus, enterococcus and proteus mirabilis with checks after 24, 48, 72 and 144 hours.
C) The bacteriostatic was followed by studying the

Fill up with Zonolite Masonry Insulation to cut rising energy, construction costs.

When used to fill cores and cavities in masonry walls, Zonolite® Masonry Insulation cuts heat transmission through walls. And that means a substantial reduction in heating and cooling costs. In fact, Zonolite Masonry Insulation meets FHA/HUD multi-family U value specifications of .17 and reduces both the need and cost of other insulation to meet .10 U value specifications.

Zonolite Masonry Insulation is lightweight, free-flowing and dust-free, installs quickly and easily by simply pouring directly into the wall. And that means low installed cost and lower construction costs.

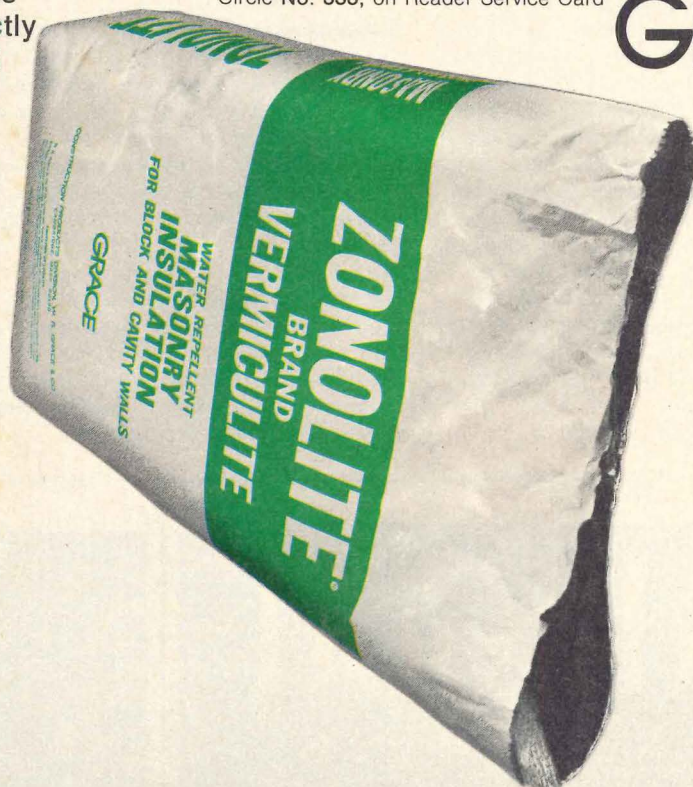
And that's not all. An Underwriters' Laboratories, Inc. test shows that the fire rating of an 8-inch lightweight block wall is improved from two to four hours when cores are filled with Zonolite Masonry Insulation.

In addition, Zonolite Masonry Insulation virtually eliminates water permeation, increases year-round comfort and combats noise pollution by reducing the transmission of noise from room to room.

Fill up your next wall with Zonolite Masonry Insulation. It's immediately available to meet your needs. From W. R. Grace & Co., 62 Whittemore Avenue, Cambridge, Massachusetts 02140.

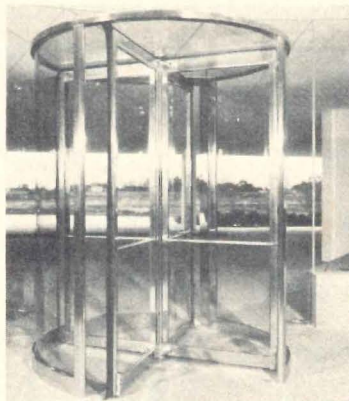
Circle No. 333, on Reader Service Card

GRACE

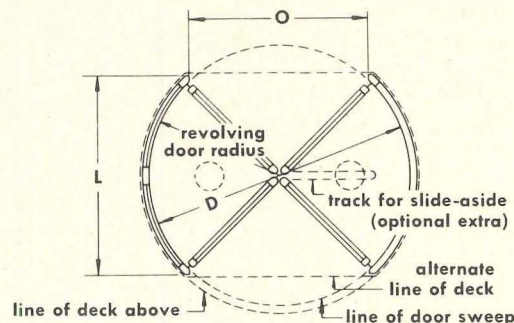


Stainless steel, bronze, and aluminum doors, fabricated for hinged, pivoted, or balanced specifications are shown in catalog. The manual or power-assist balanced door hardware, is latest improvement for single- or double-acting balanced doors. Features of hardware are said to allow for specification in a variety of circumstances such as for the handicapped, for security, for high volume traffic, or for small children. Doors operate manually during power failure. Dawson Metal Co.

Circle 210 on reader service card



Revolving door



Metal rolling doors and grilles for use in factories, warehouses, truck terminals, and environmental control buildings, special service doors such as craneway doors, combination service door and grille, pass or wicket door, and fenestrated curtain are shown in catalog. Specifications, dimensions, clearance data, and schematics are included. Separate catalogs cover commercial-industrial sectional doors which are made of steel, steel and aluminum combination, fiberglass, wood panel, wood flush, and fire doors. Catalogs also include information on track arrangements, electric operators, and optional accessories, coil-away doors, and automatic sliding doors and swinging doors. Overhead Door Corporation.

Circle 211 on reader service card

Industrial doors that include thick cloth reinforced neoprene seals on all edges and urethane filled panels as standard equipment are designed to conserve energy. The 8-page catalog includes drawings, specifications, and photographs of power and manually operated doors for a wide variety of industrial applications. Described are single, double, and telescoping horizontal slide models, vertical sliding, bifold, half-bifold, bifold-slide, double-acting impact doors, and special purpose doors. Descriptions of door controls, standard, and optional components are included. Units are available with panels of galvanized and hot rolled steel, Kayon Plastic in 11 colors, and flush plywood. Clark Door Company.

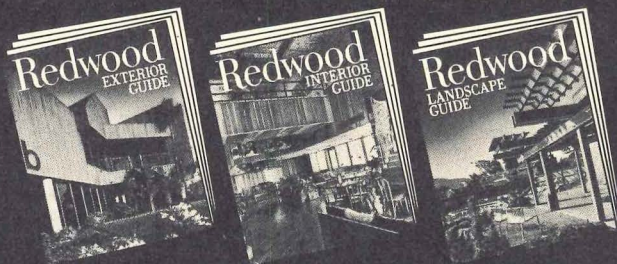
Circle 212 on reader service card

Revolving doors are fabricated of aluminum, stainless steel, or bronze. Finishes include Du-ranodic for aluminum, satin finish for stainless steel, natural satin finish lacquered, or statuary finish for bronze. Glazing can be clear or tinted 1/4 in. tempered polished plate glass for the wings and 1/4 in. clear or tinted bent polished plate glass for the enclosure. Optional glass ceilings provide 1/2 in. clear tempered polished plate glass or 1/2 in. tinted tempered polished plate glass. Where safety glazing material is required, DuPont Lucite "AR" is available. Brochure includes scale drawings and specifications. Crane Fulview Glass Door Company.

Circle 213 on reader service card
[continued on page 114]

Redwood

DESIGN FACT FILES



New design ideas, practical applications and specification data for California redwood. The files you indicate will be sent at no charge.



California Redwood Association
617 Montgomery Street
San Francisco, CA 94111

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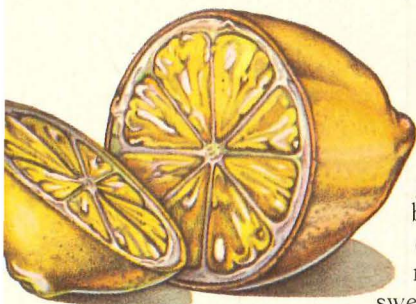
Levolor Riviera Blinds

The most functional shading device ever invented is now also the most beautiful. Levolor Riviera's keep out sun and glare with the turn of our Magic Wand (You can't "over-turn" either, thanks to the exclusive *Guardian Tilter®). Let your imagination soar...you have more than 100 colors to choose from. Send for our complete manual. Levolor Lorentzen, Inc. 720 Monroe St., Hoboken, N.J. 07030.



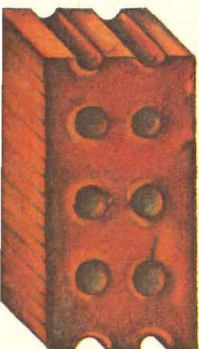
*Guardian Tilter is a trademark of Levolor Lorentzen, Inc.

A few words about Marlite® doors...



Give us the word on what color you want. White, polar

white, swan white, designer's white, solid white, misty white, meerscham, oyster white, dove grey, antique white, champagne, parchment, beige, portland grey, putty, oatmeal, burnished gold, pongee, parrot green, biscuit, pale gold, antique gold, gold, citron, honey suede, lemon, daffodil, mayan gold, mayan yellow, butterscotch, sweet lime, green-brier, indian gold, kumquat, pumpkin, orange peel, lettuce, harvest gold, apple green, patriot red, chinese red, delft blue, raspberry, cranberry, russet, space orange, brick, sky blue, frosty blue, forest green, independence blue, terra cotta, burgundy, blue, vivid blue, wild iris, cerise, plum, brown, tuscan brown, regimental blue, black, black pearl,

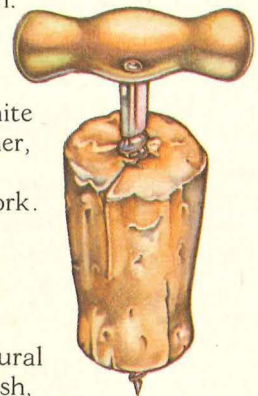


Talk to us about textured and dimensional finishes.

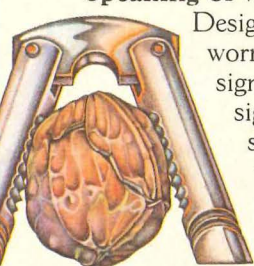
Mini-weave, prism, fresco, blue denim, natural cane,



planked corcho, natural cork, stucco, white slate, black slate, herringbone, fossil, leather, natural cane, intaglio, shantung, cordoba tipped leather, planked corcho, natural cork.



Speaking of woodgrains.



Designer's teak, light wormy chestnut design, chapel oak design, dark wormy chestnut design, shell pecan design, concord gray weatherboard, darby brown weatherboard, walnut design, gray barnside®, rosewood design, swedish cherry design, american walnut design, brown barnside®, executive walnut, colonial maple, oak, figured rosewood, english oak, silvan teak, natural butcher block, barrel oak,

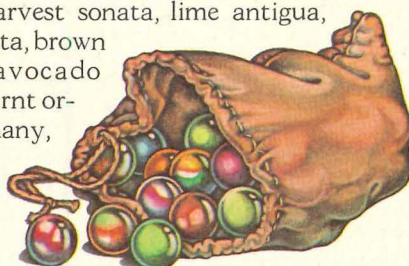


distressed pecan, natural silvan teak, golden ash, frostwood design, weathered yew, knotty cedar design, denver walnut design, pecan design, lotus teak, presidential dark walnut, light teakwood, carpathian burl, wormy chestnut, shenandoah fruitwood.



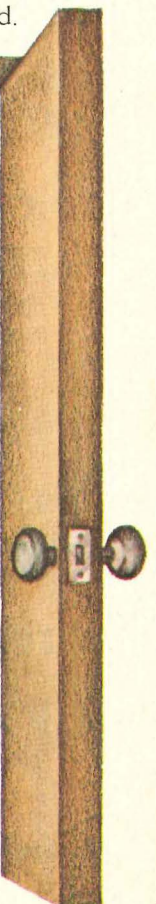
Leathers, abstracts and marbles worth a 1000 words.

Executive leather, HIA brown leather, palomino leather, harvest leather, avocado leather, black leather, white leather, pompeii, cathedral, DaVinci, blue cathedral, white onyx, golden antigua, harvest sonata, lime antigua, spring sonata, brown antigua, avocado cascade, burnt orange antigua. And many, many more.



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Doors from Marlite. Doors that do more than just open and close. Doors that complement interiors. Doors that do something for you. Any high-pressure laminate finish: solid colors, dimensionals, textures, woodgrains. And, of course, doors faced with Marlite for unique textures and deeply embossed finishes. Custom doors? They're our specialty. Name your door — the size, quantity, delivery date. You'll get what you want from Marlite. For openers, write for our catalog or see Sweets.



m Marlite® CUSTOM PRODUCTS

MASONITE CORPORATION

Division of Masonite Corporation
Dover, Ohio 44622 / (216) 343-6621

Marlite panels are hardboard with man-made finish. Marlite, Masonite and Barnside are registered trademarks of Masonite Corporation. No. 7614

Automatic and manually operated door control systems including life safety door control and panic exit devices are described and illustrated in literature. Surface mounted, concealed overhead, or concealed in floor models are included; operating data and specifications are given. Dor-O-Matic Division of Republic Industries, Inc.
Circle 214 on reader service card

Exterior and interior doors, panels, shutters, divider grilles, and bifolds are illustrated in color catalog, including a collection of hand-carved mahogany doors. Many designs are copyrighted. Nearly every item can be made to your individual requirements. Pinecrest, Inc.
Circle 215 on reader service card

Superstile aluminum door offers all major door components with a wall thickness of 1/4 in. and is available in face widths of 2 3/4 in., 4 1/4 in. and 5 3/4 in. It has been designed for schools, airports, stores, banks, monumental buildings, as well as oversize door requirements. A catalog section with details is available from Fentron Industries.
Circle 216 on reader service card

Solid hand carved doors in mahogany and rosewood are suitable for homes, apartments, or in commercial locations. Catalog illustrates in color the various models and sizes that are available. Elegant Entries, Inc.
Circle 217 on reader service card

Over 350 standard designs, available in 11 different woods make up the door models available from this manufacturer. Sun-Dors come in three thicknesses with matching door designs for every opening size. They are custom assembled to customer requirements and it is possible to have a special door manufactured to fit special hardware. Write for literature Sun-Dor-Co.
Circle 218 on reader service card

Fire door brochure compares wood and metal fire doors, which must both meet the same minimum code requirements. The 12-page, full-color brochure details Weldwood fire door performance through charts and photos, including documentation of an actual fire in a New York City office building. Fire doors are of five-ply sandwich construction with noncombustible mineral core. Details, specifications, and comparative data charts are included in the brochure, "all About U.S. Plywood Wood Fire Doors" along with NFPA Pamphlet # 80, the FHA Minimum Property Standards, and UL ratings for fire doors. U.S. Plywood.
Circle 219 on reader service card

Hinges for wood or hollow metal doors, electronic security hinges, special purpose hinges, and pivots are shown and described in company brochure. Hager Hinge Co.
Circle 220 on reader service card

Architectural Hardware from locks and latches to door closers and exit devices are detailed in 1976 condensed catalog. Included are such

specialties as hospital latches, electromagnetic wall or floor mounted door holders, and fire guards. Sargent and Company.
Circle 221 on reader service card

Combination fire/life safety hardware includes the Smoke-Chek line of combination smoke detection/door control devices to meet the full building and life safety code changes with regard to cross-corridor, horizontal exit, or stairwell doors and is especially suited for hospital or nursing home applications states manufacturer. Separate school and health care brochures give technical information for these applications. Rixson-Firemark, Inc.
Circle 222 on reader service card

Security locking system with interlocking pin tumblers is introduced in illustrated leaflet. Emhart Corporation.
Circle 223 on reader service card

Multiscan optical-electronic door control system has a light-actuated electronic sensing device for controlling Kawneer swingmatic entrances. Mounted on each side of the entrance frame, the device automatically opens door when a person enters the invisible web of infrared light beams covering an optically defined detection zone. Or it prevents the door from opening if anyone is standing where he might be struck by the moving door, states maker. Brochure and data sheet are available from Kawneer Company.
Circle 224 on reader service card

The Guaranteed Copping Cover System

We guarantee our PERMASNAP COPING COVER SYSTEM against water leakage. Period. The secret is a styrene gutter chair at each joint that quietly carries water away.

We also make sure the system stays in place. Without expensive wood nailers or imbedded anchor bolts. A special adhesive replaces them. And it sticks against 60 lbs. per square foot of uplift.

Permasnap Coping Covers are also simple to install. (It has to do with the "snap" in the name, but it's simpler if you see it for yourself.)

All in all, it's a pretty simple system. Only three parts. And we guarantee all of them. Specify Hickman.

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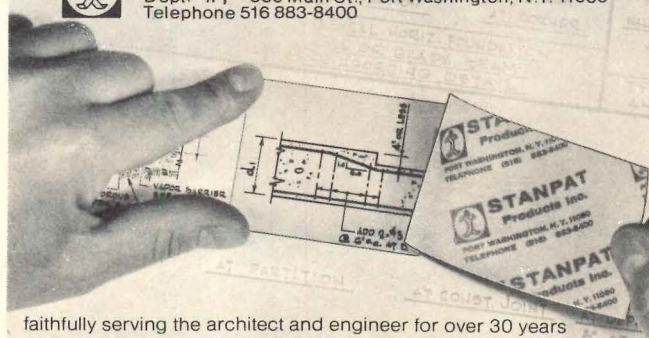
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An elegant store should look elegant. Even when it's closed.

With a Cookson rolling grille, you can give a store good nighttime security without making it look like a freight elevator.

But don't get the wrong idea. Just because it's attractive, doesn't mean your grille is flimsy. Quite the contrary.

Once the grille is closed, it locks automatically and can't be forced open. Thanks to our new, exclusive locking device, which can't be reached or seen by a would-be vandal.

In fact, lots of Cookson strong points can't be seen. Like special far-end caps that prevent jamming. Inserts that eliminate metal-to-metal contact. The easily adjustable counter-balance mechanism for smoother operation. Little things that add up to

make a Cookson grille a lot better.

Cookson rolling grilles can be steel, aluminum or stainless steel. Vertical or side-coiling. With push-up, chain, crank or motor operation.

And they're available in a range of patterns, colors and finishes. All of which make them very attractive rolling grilles.

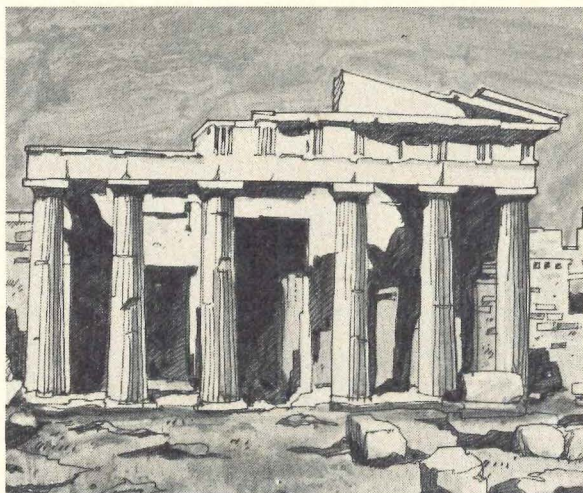
Just the thing to keep an elegant store elegant. All night long.

For full information on our rolling grilles, doors and counter doors, write for our catalog to:

The Cookson Company,
700 Pennsylvania Avenue, San Francisco, California 94107.

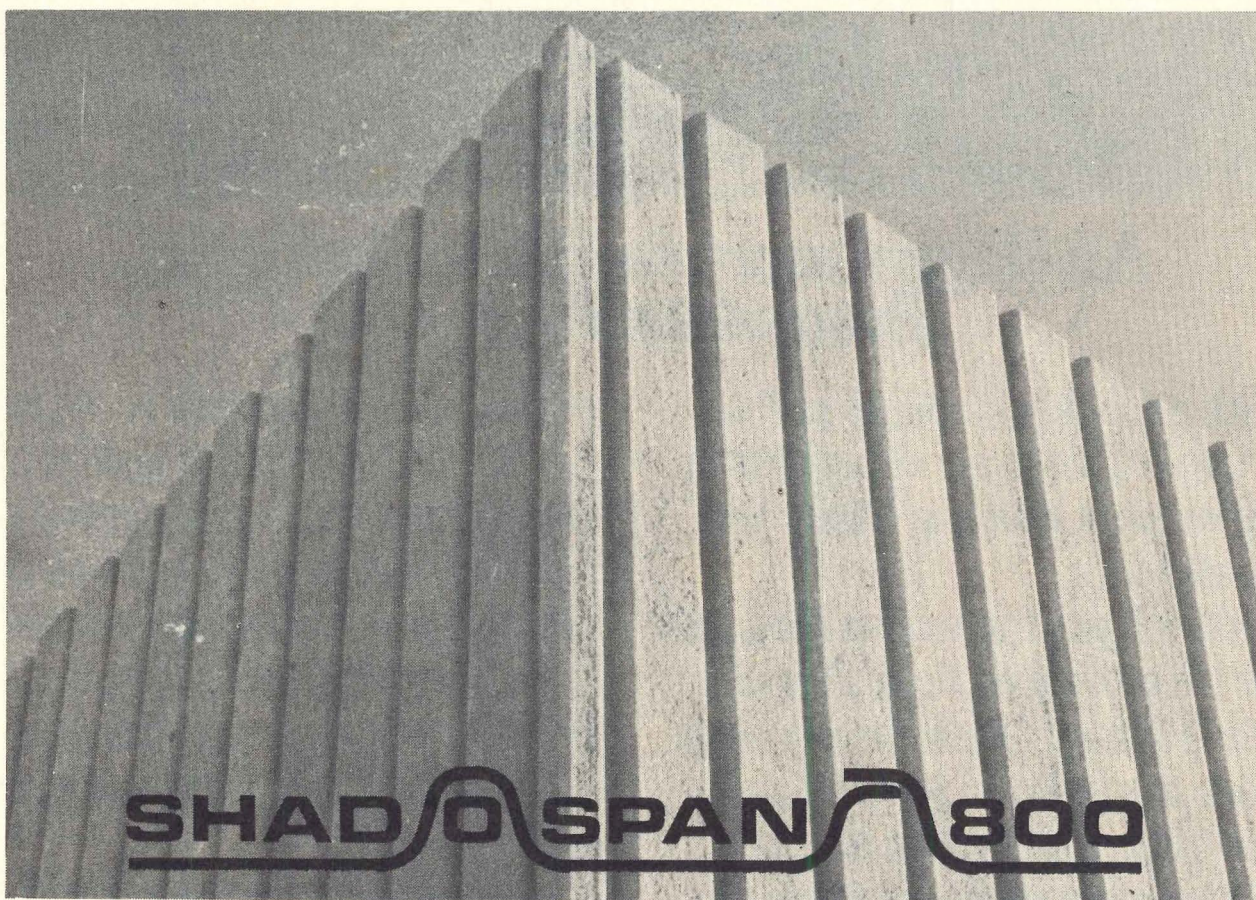


Cookson Rolling Doors
® Best way to close an opening.



"Mr. Mnesicles, if you had to build your Propylaea today, what siding would you specify?"

"Such a question. Shadospan — what else? See that Greek fluting, that finish. If I'd had it, maybe they would have let me finish the job, Peloponnesian War or no. But look at it now. It's a crying shame."



Shadospan is composed of mineral fibre and Portland cement. It is non-combustible, has long span capability and is easily installed. Needs no surface coating and has an extremely long maintenance-free life span.

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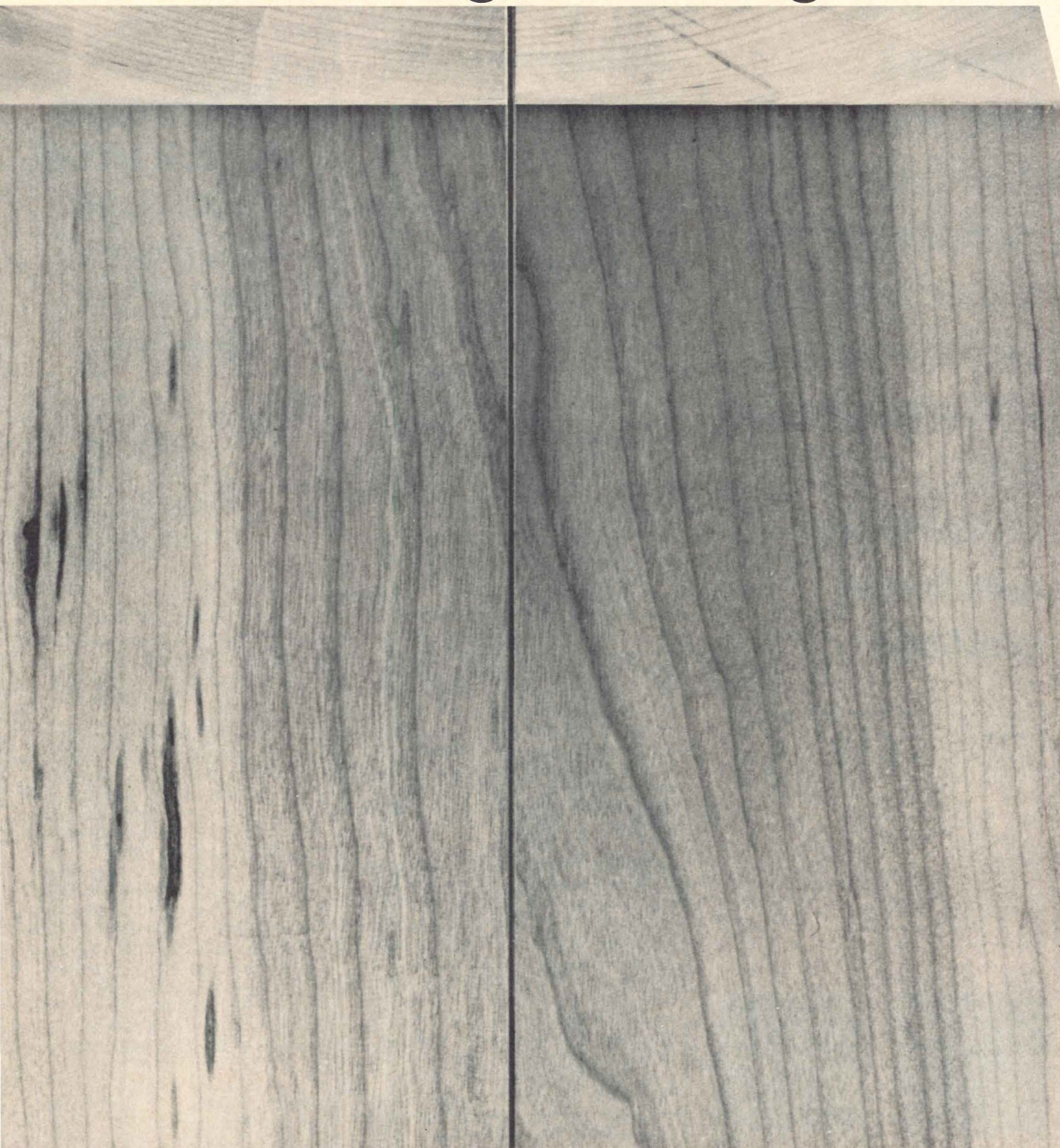
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7292

The closest thing to no hinge at all.



FULL SIZE PHOTO OF HINGE MODEL 218 INSTALLED IN 1 1/2" THICK SOLID WOOD DOOR AND JAMB.

The hinge that hides



Now you see it.



Now you don't!

Some hinges are decorative. Some are functional. But only one is invisible.

So, when the best looking hinge would be no hinge at all, specify one of The Soss Invisibles.

Choose from 18 models and four finishes for use in wood, metal and even plastic. All models open 180° and disappear when closed.

The gap between door and jamb almost disappears, too. The *largest* gap is only 1/16", or almost no gap at all.

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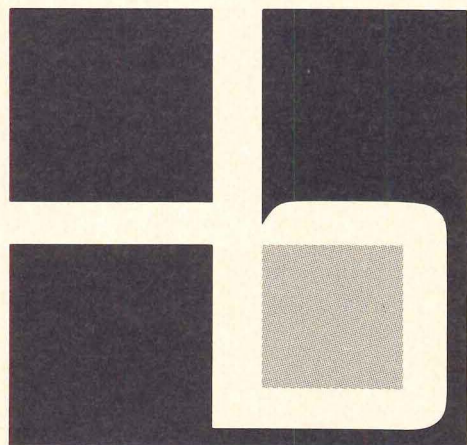
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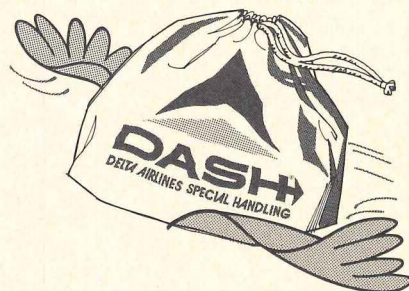
Major materials suppliers for buildings
that are featured this month, as they
were furnished to P/A by the architect.

Visitor Center, Independence National Historical Park, Philadelphia, Pa. (p. 66). *Architects:* Cambridge Seven Associates, Inc. Reinforced concrete foundation: Universal Atlas Cement. Structural steel: O'Neill Steel Co. Concrete (for bridge): Universal Atlas. Brick: Victor Cushwa & Sons. Window wall: ELCRON. Porcelain enamel panels: Challenge Stamping & Porcelain Co. Metal floor decking: EPIC. Vinyl asbestos tile flooring: Armstrong. System ceiling surfacing (K-13): National Cellulose Co. Metal ceiling grid: Contemporary Ceilings, Inc. Roof flashing: Duross. Asphalt fiberboard: Duross (Barrett) Sealants: Woodmont Products. Copper fabric damp-proofing: AFCO Products. Fireproofing (Monokote): Zonolite. Partitions: U.S. Gypsum Co. Sun Shades for exhibition pavilion: Louver Drapes, Inc. Skylights: EPI Architectural Systems Inc. Glass: National Glass Co. Solid core wood doors: Eggers Hardwood Products. Hollow metal doors (interior and exterior): Superior. Automatic door operators: Stanley Sales Co. Hardware: Sargent. Door closers: LCH. Paints (exterior): Martin Senour. Paints (interior): Benjamin Moore. Theater seating: New Holland Planning Mills. Fire alarm system: Simplex. Steplights (exterior lighting): Kurt Versen Co. Custom canister fixtures: Voight Co. Recessed ceiling: Kurt Versen Co. Water closets: American Standard. Sprinklers: Zurn. Automatic heating control systems: Honeywell, Inc. Dampers: Air Balance, Inc. Grilles and registers: Krueger. Convectors, unit heaters, and heating coils: Trane.

Penn Mutual Tower, Philadelphia, Pa. (p. 72). *Architects:* Mitchell/Giurgola Architects, New York, Philadelphia. Concrete: Allentown Portland Cement. Reinforcing steel: Bethlehem Steel Corp. Composite steel; Longspan trusses and girders: Montague-Betts Co. Metal deck: Inryco Construction Products. Gypsum wall board: U. S. Gypsum Co. Ceramic tile: American Olean Tile Co. Lobby granite: John Swenson Granite Co. Ceiling: Armstrong Cork Co., Integrated Ceilings, Inc. Curtain wall: Lupton Manufacturing Co., PPG Industries, Libbey-Owens-Ford Co. Elevators: Otis Elevator Co. Lighting: Lightolier. Sanitary: American Standard. Refrigeration machines: York. Fans: Westinghouse.

Glass Palace, Philadelphia, Pa. (p. 76). *Architects:* Louis Sauer Associates, Philadelphia, Pa. Concrete; spread footings: Warner Concrete. Precast concrete frame and deck: Strescon Industries. Steel: Bethlehem Steel. Curtain wall: Roll Form Products. Stucco: Penncrete Products. Brick: O. W. Ketchum. Built-up roofing: Johns-Manville. Hollow metal doors: CECO. Steel roll-up doors: Cornell Iron Works. Stairs: Keystone Iron Works, Duvinage. Exterior lighting: Jules Fisher. Cabinet heaters: Chromalux. Roof-top heating units: Singer. Central chilled-water plant: Trane. Controls: Honeywell.

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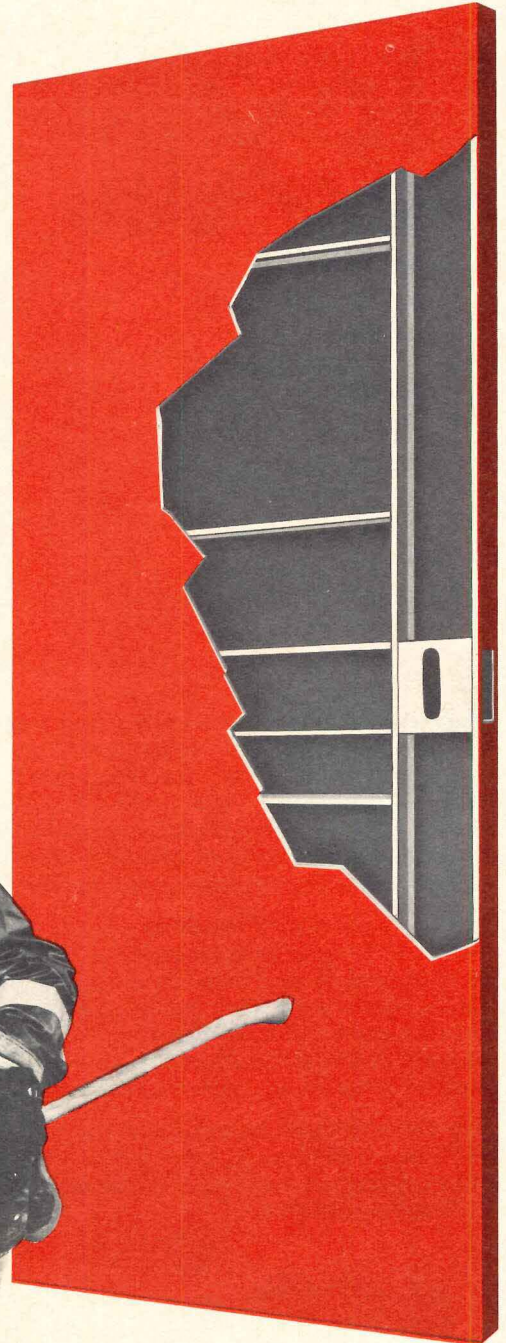
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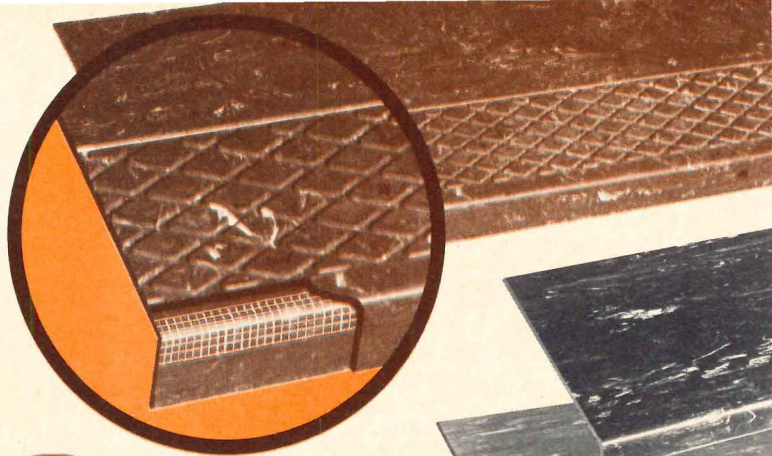
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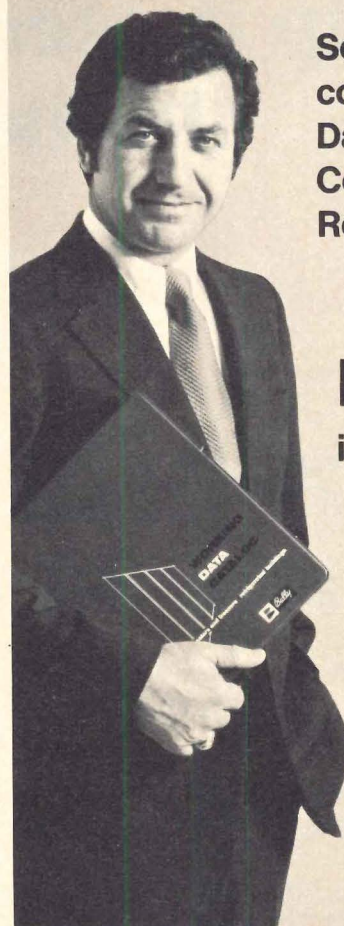
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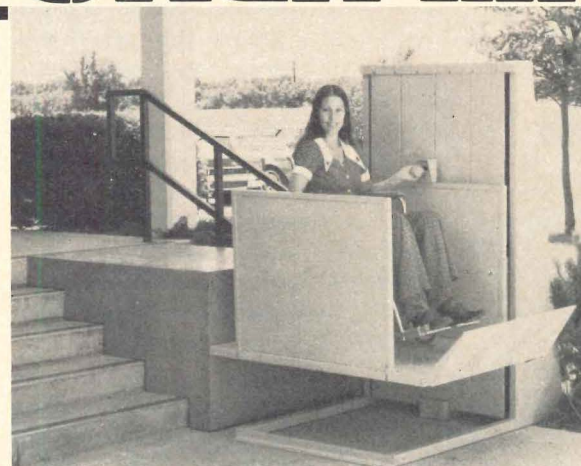
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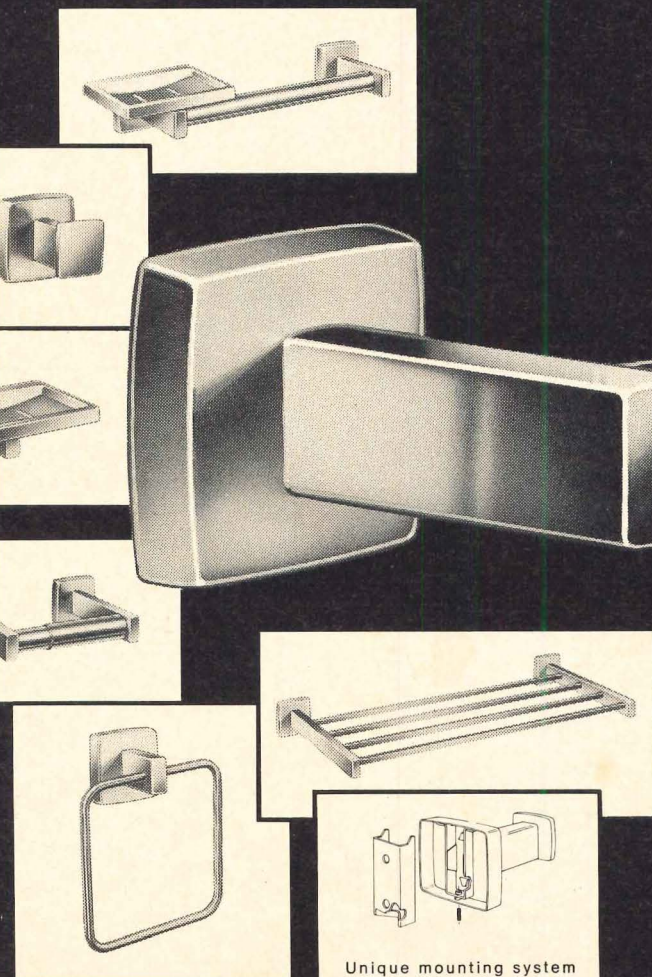
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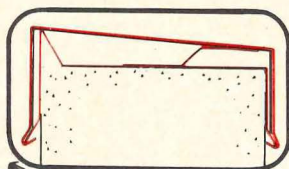
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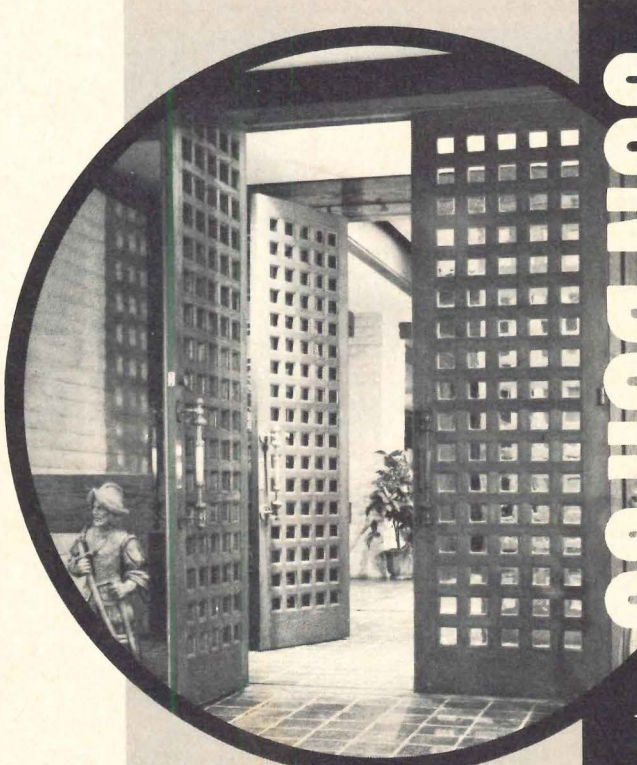
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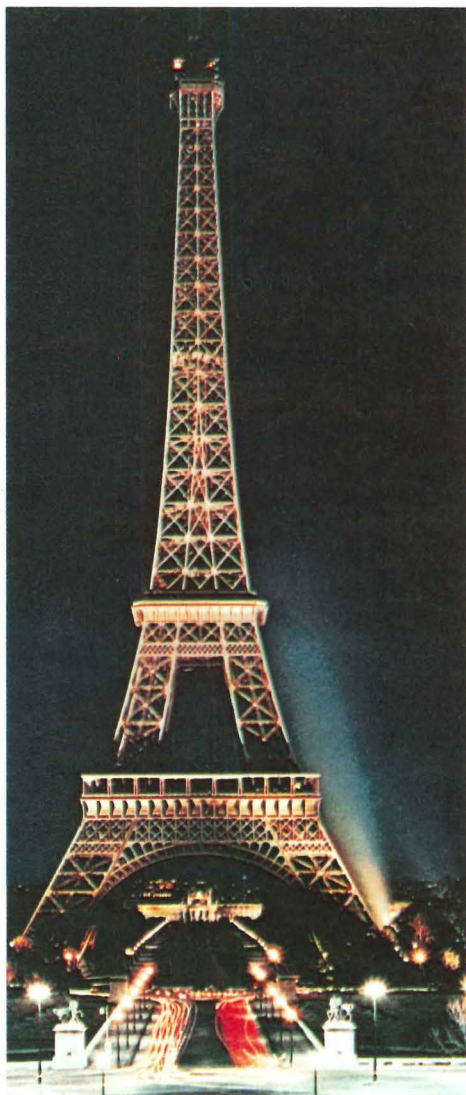
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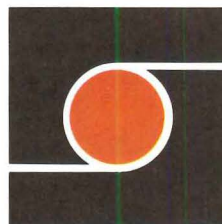
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