

OCULUS

on current new york architecture

The New York Chapter of the American Institute of Architects

Volume 46, Number 7, March 1985



Battery Park City—A Progress Report: Part Two—The World Financial Center.

OCULUS

THE WORLD
FINANCIAL CENTER

Volume 46, Number 7, March 1985

Oculus

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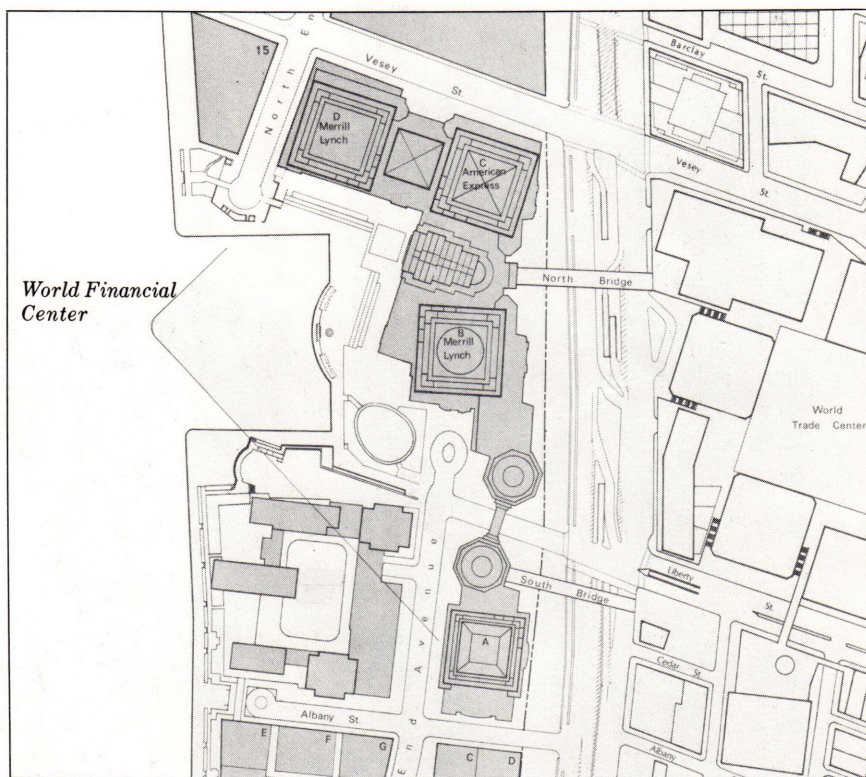
The west elevation of the Winter Garden
 with Tower C behind.

Facing page:

1. Tower C of the World Financial Center,
 to be occupied by American Express, and
 the steelwork of the Winter Garden with
 the North Bridge leading to it.

2. Model looking north along West Street.

3. Model of the World Financial Center
 from the Hudson River with the twin
 towers of the World Trade Center in the
 center background.



Most remarkable and unbelievable at Battery Park City so far is the progress on the World Financial Center. It seems like no time has passed since Cesar Pelli was announced as architect for the Olympia & York development. Yet already two of the four towers are nearly finished, the steel of the Winter Garden greenhouse-public space is all in place, and Olympia & York has not merely rented but sold three of the towers.

So it is time for a tour of Battery Park City, Part Two—The World Financial Center: Take this guidebook along and go by subway to the World Trade Center. Walk west toward the Hudson along Liberty Street and cross (watchfully) West Street to Gate 8. (If you drive, turn in at Gate 8 and park on the Battery Park City streets where you can or in the Gateway Plaza garage.)

From there, proceed south past World Financial Center Building A and west around Gateway Plaza (see Oculus

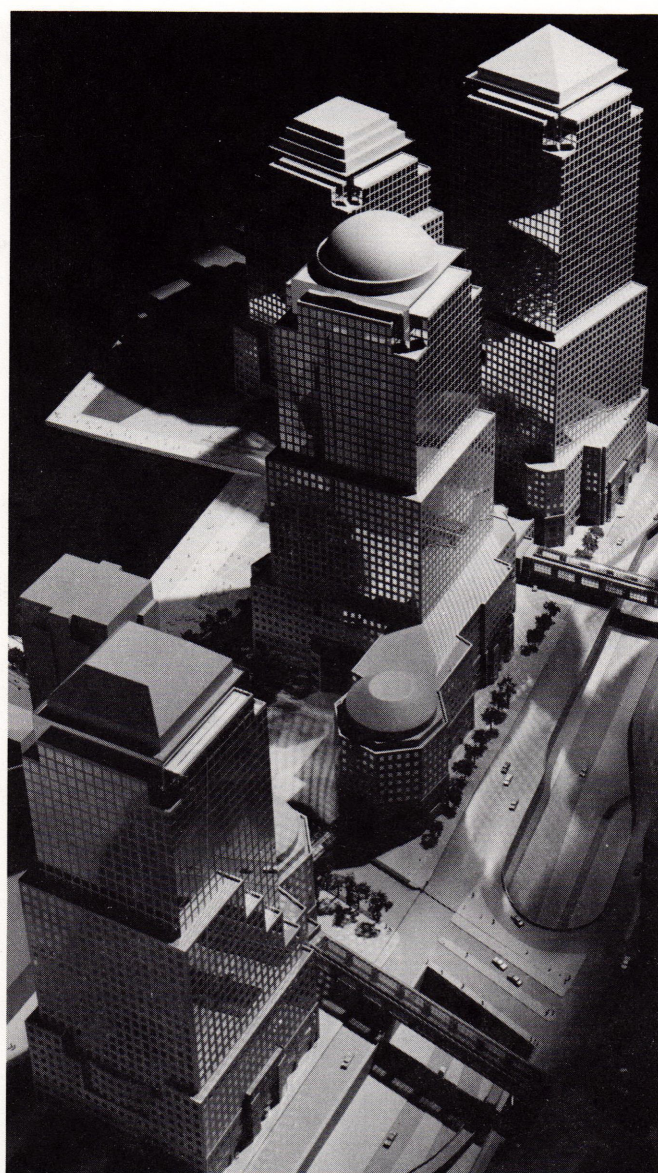
February 1985) to the Esplanade along the river, then north to Pumphouse Park at the North Cove. That is the best place for a ground-level overview of the Financial Center. From there you can easily see what is reported on here.

This Oculus progress report on the World Financial Center has been informed by Cesar Pelli; by Michael C. Cunningham, assistant project coordinator for Olympia & York Battery Park Company; by Gail Moseley's guided tour of models and drawings at O&Y's Display Gallery; by the Battery Park City Authority's public information office; and by the immodest editorial views of the Oculus editorial board and staff. We hope it can serve as a guide to one of the city's newest attractions and that, along with the previous issue of Oculus, it will clearly indicate that the World Financial Center and all of Battery Park City are on the way to becoming one of the city's newest treasures. — CRS

Photo: Stan Ries



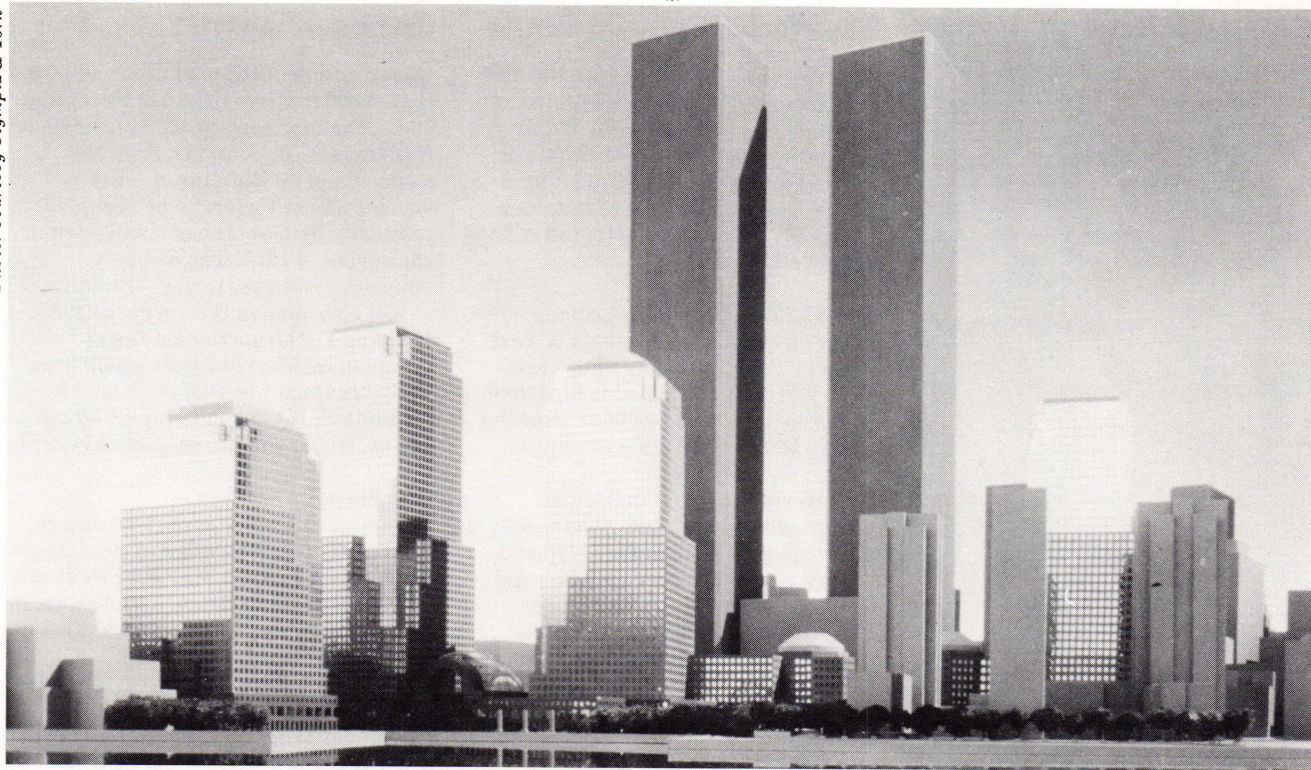
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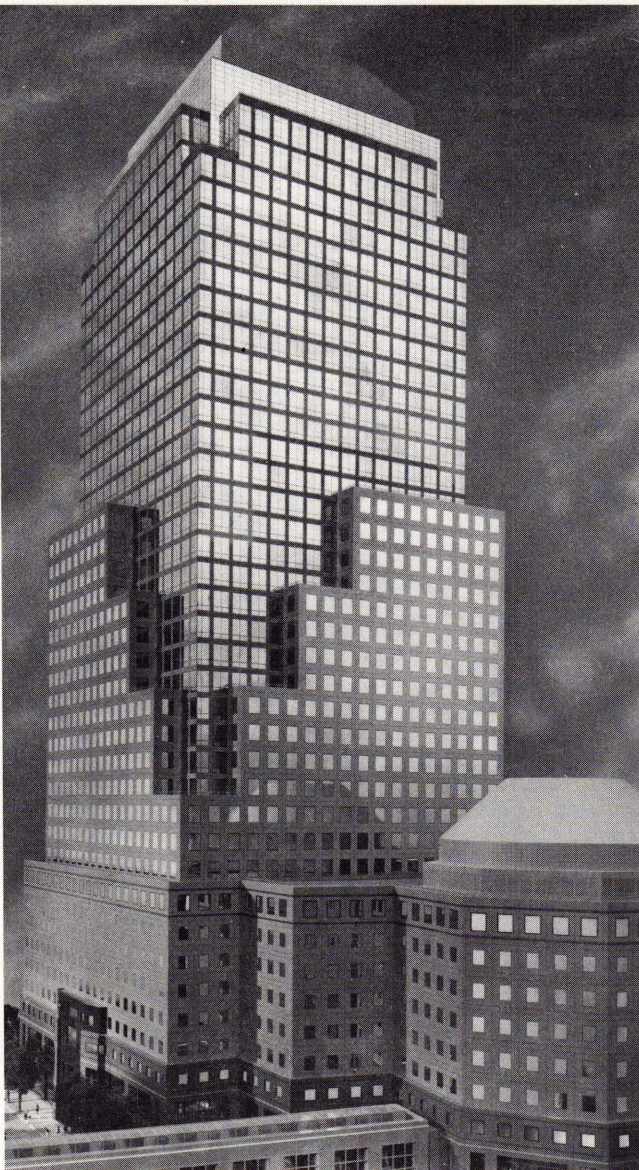
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Photo: 1988 Wolfgang Hoyt/ESTO, courtesy Olympia & York

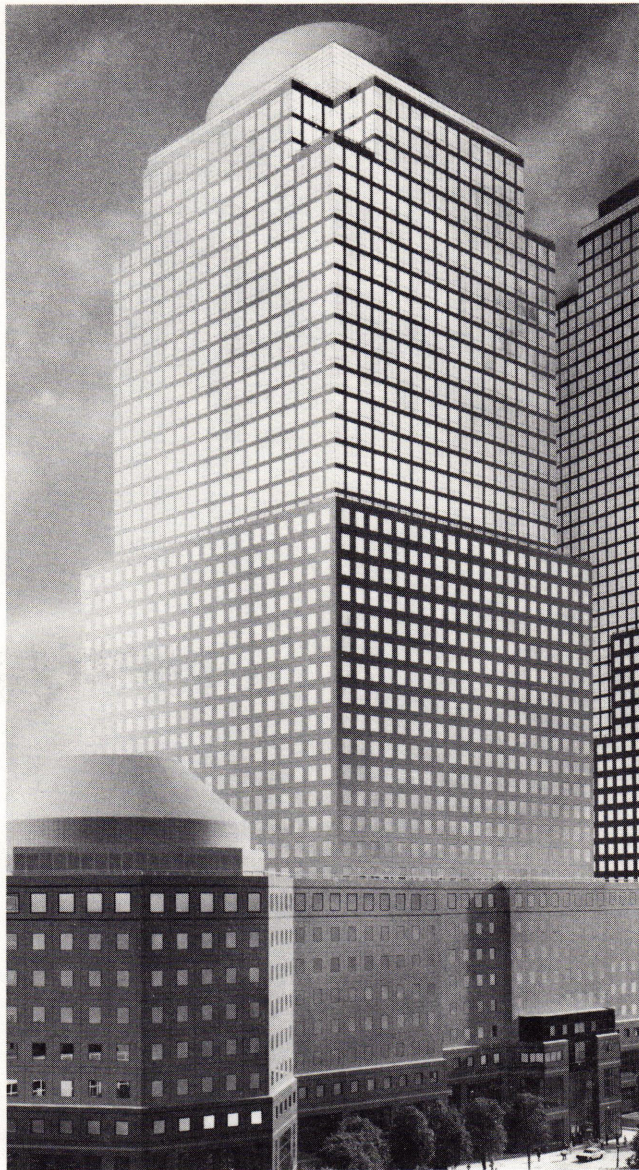
Photo: Courtesy Olympia & York



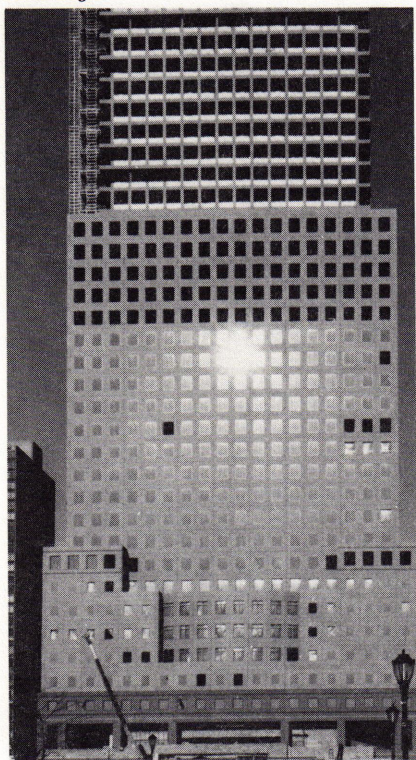
3.



Building A



Building B



Building A

The World Financial Center

The World Financial Center was the first development to be designed and built under the Battery Park City Authority master plan of 1979. The site surrounds Battery Park City's North Cove and is located between Vesey Street on the North and Albany Street on the south.

The \$1,500,000,000 office complex is being developed by Olympia & York Battery Park Company under lease from BPCA. The Center is designed by Cesar Pelli & Associates working within BPCA's design guidelines.

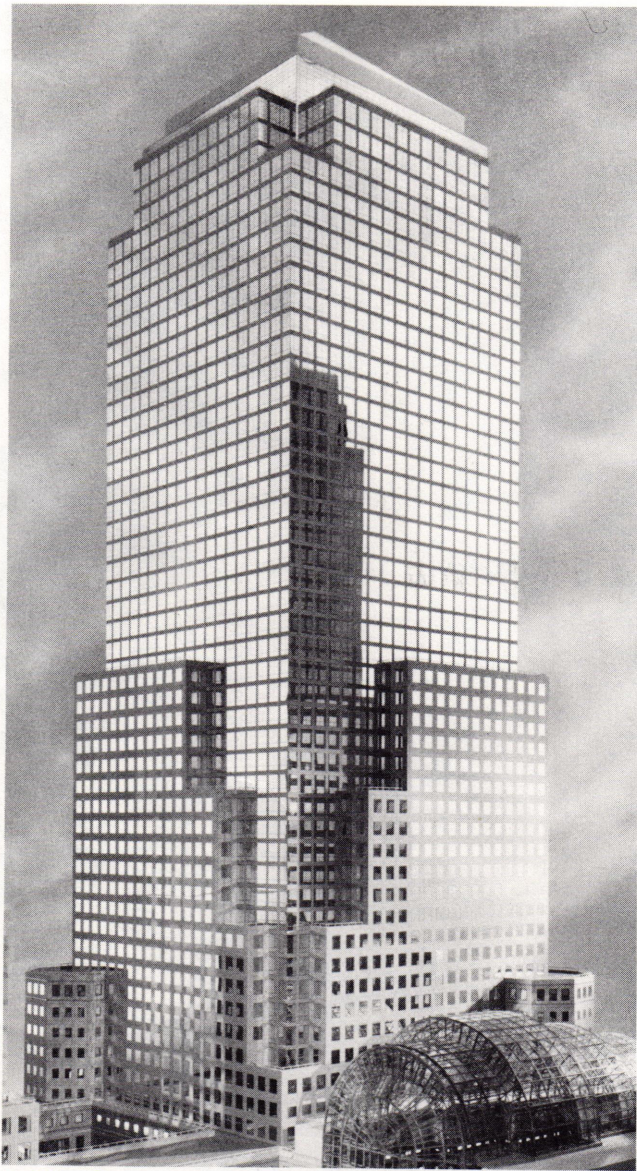
The World Financial Center is comprised of six million square feet of office space in four towers, 280,000 square feet of commercial and retail space, a public Winter Garden of 18,500 square feet, and a 3.5-acre public plaza surrounding the North Cove. It, therefore, includes public indoor spaces as well as public outdoor spaces.

The Four Towers

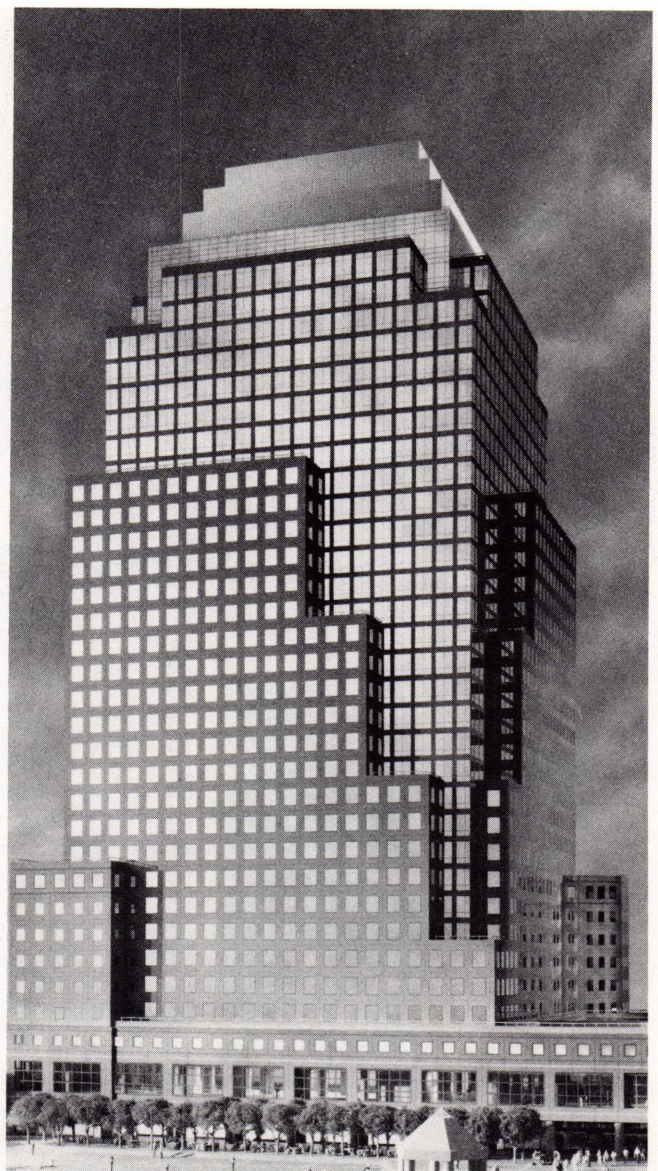
Construction of the six million square feet of office space began in December 1981. The four towers are identified as Buildings A, B, C, and D, from the south to north. Building A — the southernmost tower, to be occupied primarily by Dow Jones — will open in the spring of 1985. The 51-story American Express tower — Building C — will also open in the spring of 1985. Building D, the northwest tower occupied by Merrill Lynch — will have early occupancy in 1986, followed by Building B, the second Merrill Lynch tower, which will be completed in 1987.

The Plaza

The plaza is the collaborative design of architect Cesar Pelli & Associates, landscape architect M. Paul Friedberg & Partners, and artists Siah Armajani and Scott Burton. (The plaza has been redesigned since many of the illustrated model shots were taken.) Because the construction road to Tower D passes across the plaza site, the Financial Center Plaza, will be

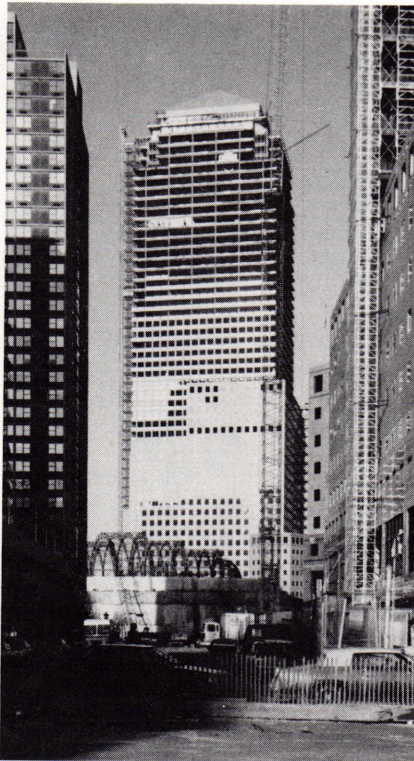


Building C



Building D

Photo: Stan Ries



Building C

Consultants for World Financial Center

- Design Architects for Entire Project: Cesar Pelli Associates
- Overall Coordinating Architects and Architects for Buildings A, C and the Winter Garden: Adamson Associates, Toronto
- Architects for Buildings B, D and all Bridges: Haines Lundberg Waehler
- Structural Engineers for Buildings A and C: M.S. Yolles & Partners Ltd.
- Structural Engineers for Buildings B, D, Winter Garden and all Bridges: Lev Zetlin Associates Inc. & Thornton Tomasetti, P.C.
- Mechanical and Electrical Engineers for the project: Norman D. Kurtz of the F&K Group, Associated with The Mitchell Partnership Ltd., Mulvey & Banani International Inc.
- Foundation Engineers: Mueser, Rutledge, Johnston & Desimone
- Landscape Architects: M. Paul Friedberg & Partners
- Architectural Lighting Design
Lighting Consultants: Jules Fisher and Paul Marantz

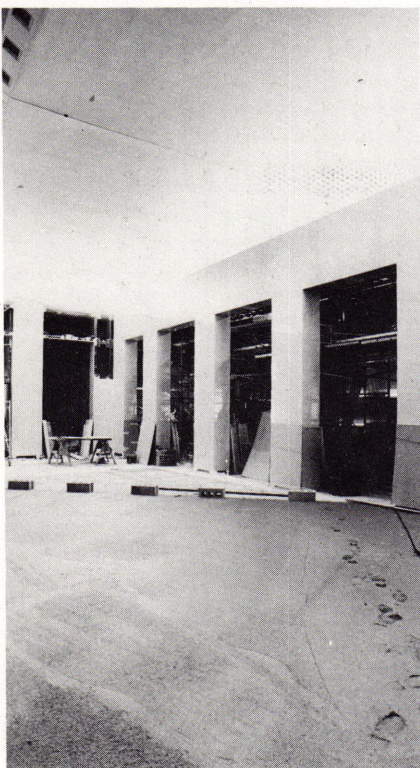
completed in two phases. The first section is scheduled to be started in the summer of 1986 after the cladding cranes are removed from Building D; the second phase around Building B will probably be completed in 1988.

The World Financial Center

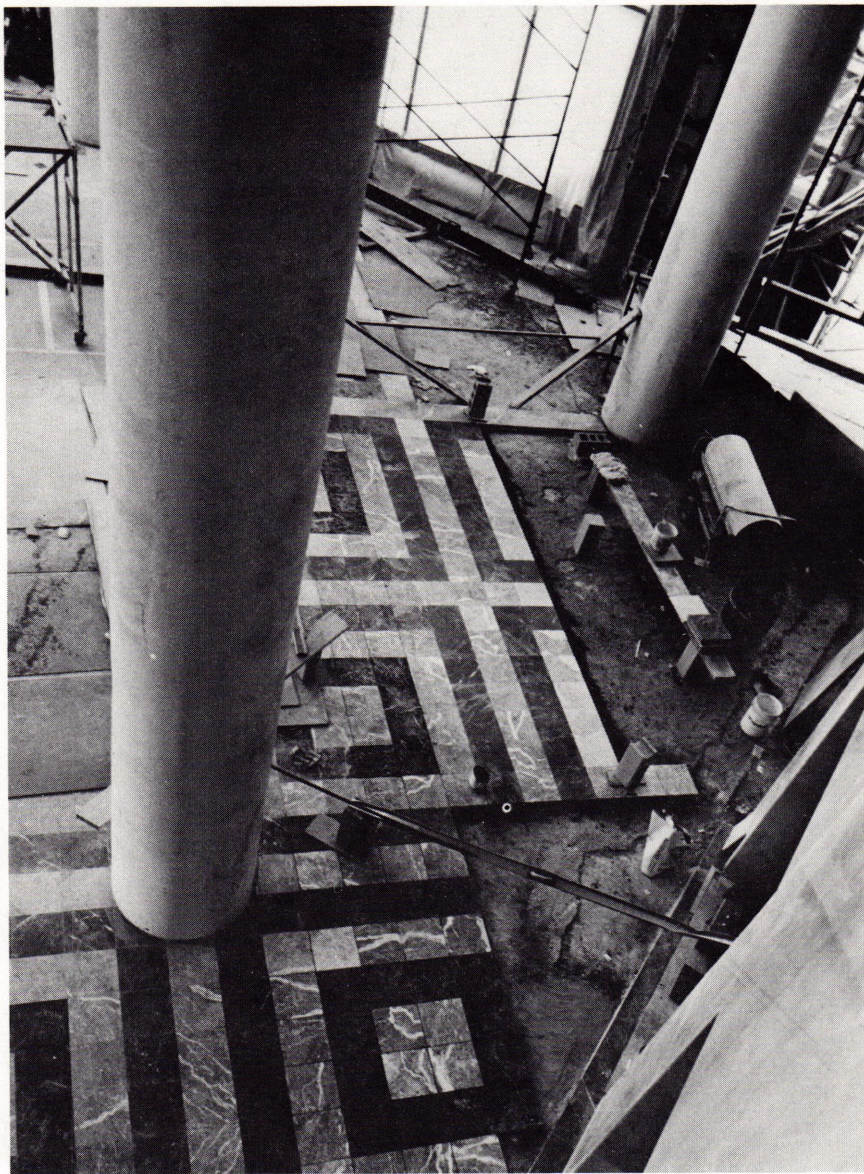
Interiors

1. An elevator lobby in Tower C — the American Express building.
2. The lobby paving pattern in Tower C.
3. A lobby area in Tower C.

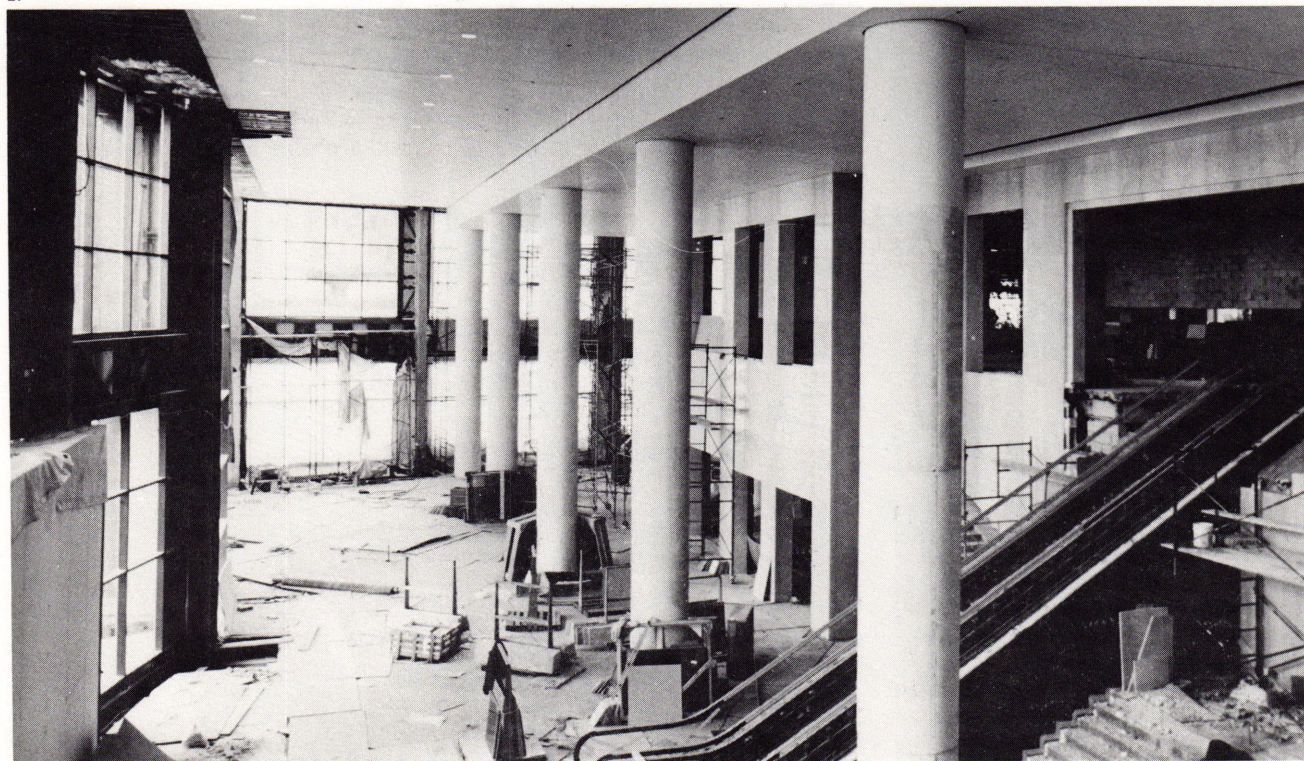
Photos: Stan Ries



1.



2.



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Chapter Reports

• **St. Bartholomew's.** At the Landmarks Commission hearing January 29 on the revised proposal for a new high-rise building on the site of the Community House, Terrance Williams, while commending the Church and the architect for rethinking their approach, testified on behalf of the Chapter in opposition. He stated: "It is obvious that the revised scheme still presents a significant increase in bulk over what exists, an increase which will greatly modify the spatial quality of the complex." Calling attention to how the Church has maintained that it needs income from a new building to administer charitable programs in other areas of the city, he said, "For midtown to be afflicted with additional mass and bulk to finance charitable activities far afield flies in the face of all generally accepted urban design principles, principles which have as their purpose the maintenance of a civilized urban environment."

Committee on Art in Architecture formed, Robert Landsman, members interested should office.

Paul Segal and the Institute's a very which was there were the will in visited

Names and News

Prize-winning Simpson Hall Renovation by Schofield Colgan Architects, Nyack, New York.

Robert A.M. Stern and John Burgee will be among the speakers at The American Institute of Architects 1985 National Convention (June 9-12) at which Tom Wolfe will give the keynote address. It will be in San Francisco . . . The theme of the 35th annual International Design Conference in Aspen (June 16-21) is to be "Illusion is Truth: Perception as the Basis for Design" . . . James Stewart Polshek and Partners have appointed two new Associates, Richard M. Olcott and Todd H. Schliemann; three new Senior Project Architects, Gaston Silva, Daniel K. Bernstein, and Joanne Sliker; and a Director of Interior Design, Charmian Place . . . Henry Hope Reed has completed a guide to the building of the New York Public Library, which will be published next Fall . . . The Parks Council has published a Harbor Park Map/Guide, which they would be glad to send to Chapter members (in a stamped 37-cent, self-addressed envelope); The Parks Council, 457 Madison Ave. (838-9410) . . . Schofield Colgan Architects have received a national award in the American Wood Council's 1984 Non-Residential Renovation and Reconstruction Design Program for their restoration of Simpson Hall, a Victorian building at Nyack College in Nyack, New York . . . Alfredo De Vido is the author of *Innovative Management Techniques For Architecture, Design, and Construction* recently published by Whitney Library of Design . . . NYC's Landmarks Preservation Commission chairman Gene A. Norman has announced that Elliot Willensky has been named vice chairman of the Commission. He also named three new commissioners: Adolf Placzek, former librarian of Columbia's Avery Library; Frances Halsband, partner of the firm of R.M. Kliment & Frances Halsband Architects; and David Todd, principal in the architectural firm of David Todd & Associates . . . Howard H. Juster of Larsen/Juster, a member of the Architectural Research Council of the AIA Foundation, will moderate an all-day session on Facility Types during the AIA Research & Design Conference '85 in Los Angeles, March 14-18 (see calendar) . . . Haines

cont'd. p. 10, col. 1



Photo: Tom White

Coming Chapter Events

Thursday, March 7, 6:00 pm
Review of Concrete Fundamentals Characteristics—Control—Repair. Raymond C. Heun, PE, F.ACI, NYCCI and Ernest E. Trolie, NYCIB will discuss problems of detailing, specifying and field administration. Karl Justin will act as moderator in this event we are co-sponsoring with CIB and NYCCI.

Thursday, March 14, 6:00 pm
Contract Negotiations: Why You Can't Afford Not to Have the Right Agreement. Barry LePatner will be moderator of the discussion focusing on how architects can structure a fair agreement for services with their clients. Sponsored by our Practice Committee, the panel will include Randolph Croxton, principal of The Croxton Collaborative, and, Martin D. Raab, senior managing partner of Haines Lundberg Waehler.

Thursday, March 21
Two Projects for Sicily is the working title of the exhibition of drawings by Jorge Silvetti which will be on display in our Members Gallery through May 1. Included in the show is the Four Public Squares project in Leonforte, Sicily. Mr. Silvetti will also make a presentation on his recent work. Presentation 6:00 pm, reception 7:15 pm.

Thursday, March 28, 6:00 pm
Architectural Education and Interior Design: Are the Architectural Schools Meeting the Challenge? The Interiors Committee has organized the roundtable discussion with representatives of architectural schools and architectural firms addressing the issue.

Thursday, April 11, 5:30 pm
How Corporate Projects Get Published is the topic of a lecture by Walter F. Wagner, Editor of *Architectural Record* magazine. The program is sponsored by the Corporate Architects Committee.

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CONTINUING EVENTS

Oculus welcomes information for the calendar pertaining to public events about architecture and the other design professions. It is due by the 5th of the month for the following month's issue. Because of the time lag between information received and printed, final details of events are likely to change. It is recommended, therefore, that events be checked with the sponsoring institutions before attending.

*Send Oculus Calendar information to:
New York Chapter/AIA, 457 Madison Avenue, N.Y. 10022.*

MONDAY 4

LECTURE SERIES

"Italian Design, Post-World War II," first, in a 5-Monday series by Ann de Forest, design historian. 6:15 pm. Cooper-Hewitt Museum, 2 E. 91 St. 860-8868.

TUESDAY 5

LECTURE

Paolo Portoghesi on "The Program of The Venice Biennale" in the Architectural League's "Current Work" program. 6:30 pm. The Urban Center, 457 Madison Ave. 753-1722.

TOM WOLFE & EDGAR TAFEL

"Modern Architecture and Architects: Further Conversations with Tom Wolfe." 7:45 pm. The New School's Center for NYC Affairs. 741-5690.

WEDNESDAY 12

FRONT

...hs of Fulton
...Mensch.
...York.

EXHIBITION

"Honor and Intimacy: Architectural Drawings by AIA Gold Medalists, 1907-1983." The Octagon, Washington, D.C. Closes March 24.

EXHIBITION

"Profiles: Pioneering Women Architects from Finland." AIA Washington, D.C. Closes March 29.

CITYSCAPES

Exhibition of prints and drawings by Gerald K. Geerlings. Museum of the City of New York, Fifth Ave. at 103 St., 534-1672. Closes March 31.

WEDNESDAY 6

1475: Michelangelo born (1475-1564)

EXHIBITION

"Realizations of Usonia: Frank Lloyd Wright in Westchester." The Hudson River Museum, 511 Warburton Ave., Yonkers. 914-963-4550. Closes April 7.

EXHIBITION

American garden and landscape drawings, plans, and elevations. Wave Hill, 675 W. 252 St. 549-3200. Closes April 7.

EXHIBITION

"Kandinsky in Paris: 1934-1944." Guggenheim Museum, 1071 Fifth Ave. 360-3500. Closes April 14.

THURSDAY 7

CONFERENCE, MARCH 7 & 8

"Design for the Electronic Office," sponsored by AIA/Illinois Chapter, ASID, and Chicago Regional Chapter of IBD. Holiday Inn Mart Center and Merchandise Mart, Chicago. Chicago Chapter/AIA, 312-663-4111.

LECTURE SERIES

"Beaux-Arts Architecture on Two Continents," first in 5-Thursdays series. 8 pm. Cooper-Hewitt Museum, 2 E. 91 St. 860-8868.

THURSDAY 14

NYC/AIA DISCUSSION

Contract Negotiations: Why You Can't Afford Not to Have the Right Agreement. Sponsored by our Practice Committee, this is the third in the four-part series with Barry LePatner. The Urban Center, 6:00 pm.

CONFERENCE, MARCH 14-18

"Research & Design 85," sponsored by the AIA in Los Angeles. Information: Kim Leiker, AIA Foundation, 202-626-7560.

FRIDAY 1

NYC/AIA JURY MEETS MAR 1-2
The Distinguished Architecture Awards Jury convenes to select the 1985 recipients.

1812: British architect A.W.N. Pugin born

FRIDAY 8

EXTERIOR BLDG. MAINTENANCE FOR COOP OWNERS

First of a 3-session course (March 8, 13 & 20) in which experts will discuss the role of the coop board in building repairs; the purpose and value of a building survey; major issues in choosing a contractor; and requirements for landmark buildings and historic districts. 6-8 pm. The Urban Center, 457 Madison Ave. Registration is limited, call 736-7575 to verify availability.

FRIDAY 15

EXHIBITION

A retrospective covering the architectural projects of Abraham W. Geller over the past 35 years. NIAE Gallery, 30 W. 22 St. Information: 924-7000. Closes April 19.

WEEKEND WORKSHOP,

MARCH 16-17

"Computer Graphics Workstations for Graphic Design." Pratt Center, Hawthorne, N.Y. Barbara Jaffe: 914-592-1155.

SUNDAY, MARCH 17

Friends of Cast Iron Architecture founded in 1970.

MONDAY 18

1751: Stuart and Revett arrived in Athens.

TUESDAY 19

LECTURE

Rafael Vinoly in the Architectural League's "Current Work" program. 6:30 pm. The Urban Center, 457 Madison Ave. 753-1722.

WEDNESDAY 20

WORKSHOP, MARCH 20-22

"Marketing Your Architectural Services," AIA Professional Development program, Hotel Westbury, Madison Ave. at 69th St. Information: Brenda Henderson 202-626-7353.

THURSDAY 21

NYC/AIA PRESENTATION

Jorge Silvetti will present his recent work. The Urban Center. 6 pm.

NYC/AIA EXHIBITION

Two projects for Sicily by Jorge Silvetti opens in the Members Gallery and runs through May 1. Reception 7:15 pm.

300th birthday of Johann Sebastian Bach (1685-1750).

FRIDAY 22

SEMINAR ON SAT. MARCH 23
"Thomas Jefferson, Architect" by William Howard Adams, Columbia School of Architecture. Cooper-Hewitt Museum. 860-6868.

WEEKEND WORKSHOP

"Video/Computer Animation" sponsored by Pratt Center for Computer Graphics in Design. NYC. Barbara Jeffe: 914-592-1155.

LECTURE ON SAT. MARCH 23
C. Ray Smith on "Modernism and the architect-designer" in series on Collecting American Decorative Arts, 10 am-2:30 pm. NYU School of Continuing Education. 598-3091.

MONDAY 25

EXHIBITION

"The Critical Edge: Controversy in Recent American Architecture," Jan Voorhees Zimmerli Art Museum, Rutgers — the State University of New Jersey, New Brunswick. 201-932-7237. Closes June 9.

TUESDAY 26

EXHIBITION

Retrospective of Canadian architect Arthur Charles Erickson's work. Center for Inter-American Relations, 680 Park Ave. 249-8950. Closes June 2.

1791: Site for the U.S. Capitol building picked by L'Enfant.

WEDNESDAY 27

RE-LINING NEW YORK'S WATERFRONT

First of a 6-session course by Ann L. Buitenvieser, waterfront planning consultant. 5:50-7:35 pm. The New School's Center for New York City Affairs. 741-5690.

THURSDAY 28

1928: William Thornton, architect of the U.S. Capitol died

FRIDAY 29

TRAVEL/STUDY PROGRAM

"Cities as Design" (March 29-April 7), study tour to London sponsored by Pratt Institute. Information: 718-783-4891 or 718-636-3453.

WEEKEND WORKSHOP

"Computer Graphics for Print" sponsored by Pratt Center for Computer Graphics in Design. Pratt Center, Hawthorne, NY. Barbara Jeffe: 914-592-1155.

SEMINAR ON SAT. MARCH 30
"The Ganteel Facade: Architecture and Costume in the Victorian Age." 10 am-4 pm. Cooper-Hewitt Museum, 2 E. 91 St. 860-6868.

MONDAY 1 APRIL

TUESDAY 2 APRIL

LECTURE

James Wines on "Inside/Outside: The De-Architecture of SITE" in the Architectural League's "Current Work" program. 6:30. The Urban Center, 457 Madison Ave. 753-1722.

THURSDAY 4 APRIL

NYC/AIA DISCUSSION

Design: Are the Architectural Schools Meeting the Challenge? The Interiors Committee has organized the roundtable discussion. The Urban Center, 6:00 pm.

Fuga.



Anniversary of Friends of Cast Iron Architecture

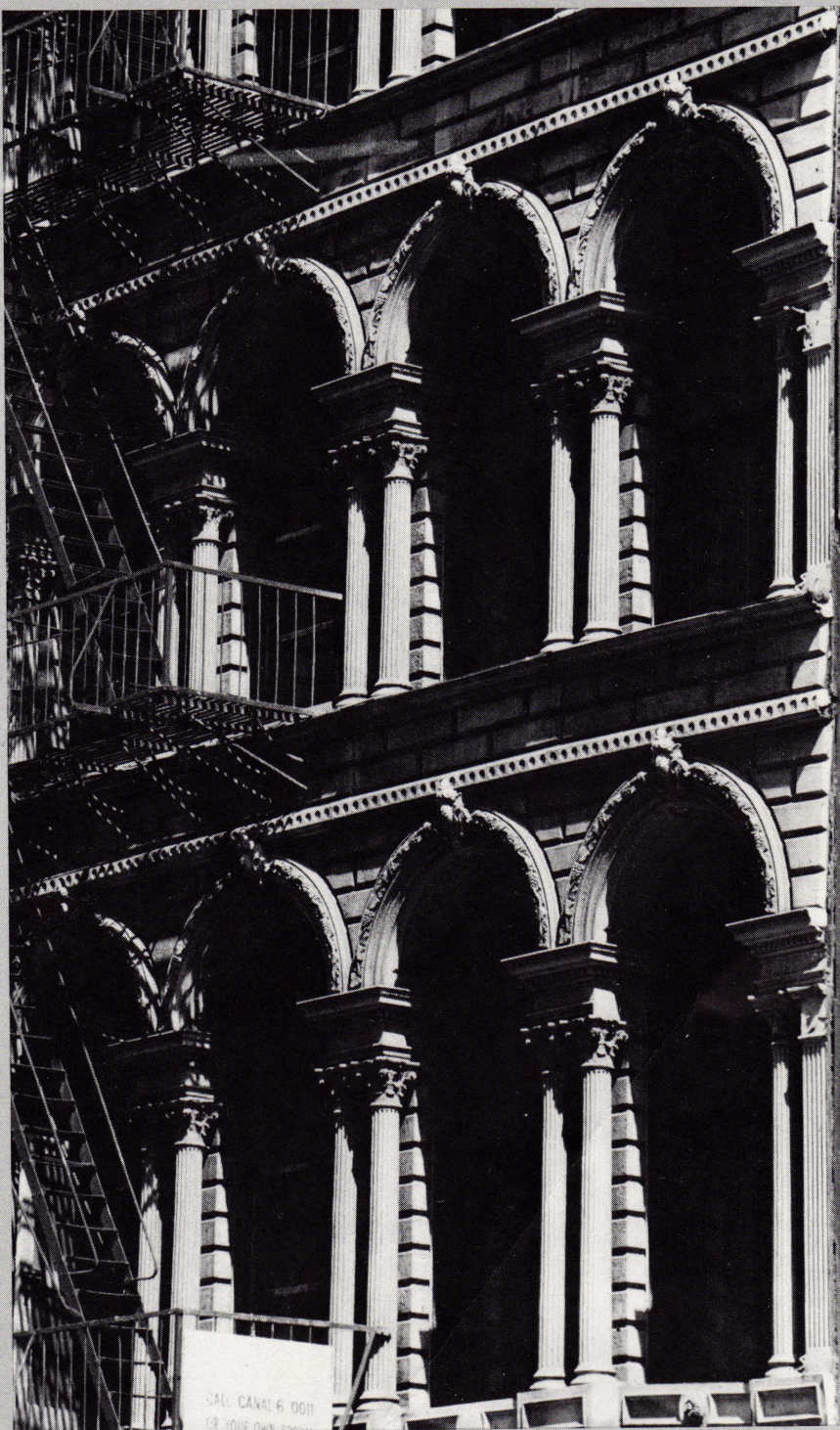
by George Lewis

On March 17, 1970, Margot Gayle took Sir Nikolaus Pevsner, who was visiting New York, on what became for him an exciting personal discovery, a tour of the cast-iron buildings in what is now called SoHo. He then and there urged her, soon abetted by Henry Russell Hitchcock, to celebrate this irreplaceable heritage. Beginning that day, working off her kitchen table (where, as Brendan Gill says, much of New York's preservation movement began), Margot Gayle initiated Friends of Cast Iron Architecture.

Virtually single handedly (the membership fee is all of \$3), she has attracted 1000 national and international members, frequently mailing folders and notices describing cast-iron techniques and alerting local citizens across the country to the value of threatened buildings. Our SoHo Historic District owes much to this effort as do the Capital Hotel in Little Rock, the Grand Opera House in Wilmington, the Robbins Building in Baltimore, the Page Building in Chicago, which is the last cast-iron example there, the Old City Hall in Baton Rouge, and many others.

Margot Gayle's *Cast-Iron Architecture in New York*, Dover 1974, is on bookshelves everywhere, as is *A Walking Tour of Cast-Iron Architecture in SoHo*, a pocket booklet published last year.

Happy Anniversary, Margot!



620 Broadway, built in 1858. John B. Snook, architect.

Photo: Edmund V. Gillon

Names and News

cont'd. from p. 7

Lundberg Wachler launched its centennial year with the announcement that Theodore S. Hammer and Leevi Kiil had become managing partners of the firm. HLW also announced the following promotions: Charles P. Lazarou, Jr. to Director of Project Management; Edwin A. Dirkes to the new post of Executive Project Manager; Walter J. Zupanicck has been named the new Director of Interior Design and promoted to Senior Associate; and Leonard C. Grayson has been

promoted to Senior Associate. Also promoted to Associate were David Spiker, Jiann D. Tsai, and Robert M. Zaccone . . . Paul Goldberger will give the opening address at Lighting World III, which will be held at the New York Hilton, April 16-18 . . . "The Critical Edge; Controversy in Recent American Architecture," an exhibition at the Jane Voorhees Zimmerli Art Museum in New Brunswick, N.J. (March 24-June 9), will focus on 12 buildings including Philip Johnson's AT&T Building, Richard Meier's Bronx Development Center, and I.M. Pei's East Wing of the National Gallery in Washington (see calendar) . . . New

York University has announced a new series of one-day and two-day seminars on Building and Construction to be held in April and May at the Washington Square Campus. For further information: Arlyne Lesser 790-1300 . . . Architects Stephen Furnstahl and Kenneth Warriner, Jr., both of Brooklyn, received the \$10,000 first place prize in the masterplan design competition for the Jacob's Pillow Dance Festival campus in the Berkshire Hills of Western Massachusetts.

The World Financial Center

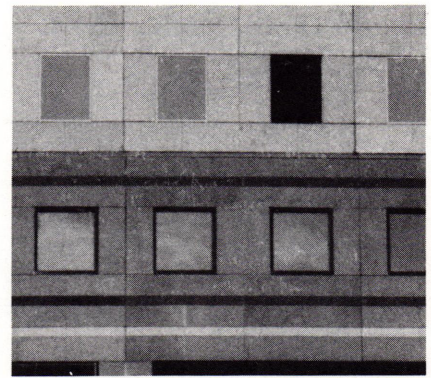
Some Technical Considerations

by Michael C. Cunningham

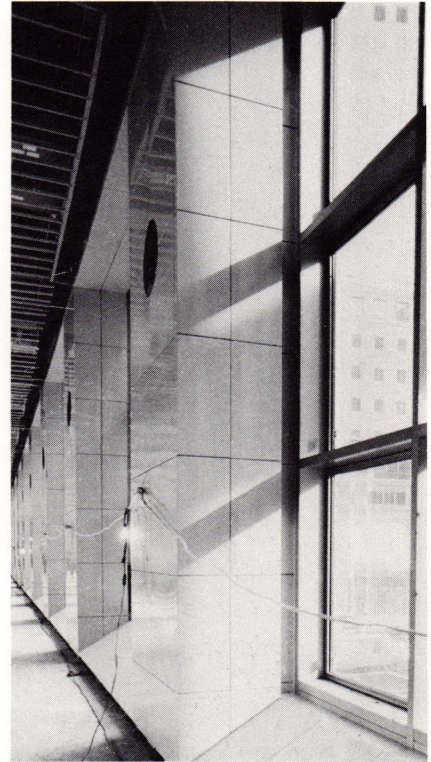
1. The granite sheathing at the base of the towers is applied in bands of different color to texturize the buildings.

2.3. The aluminum sheathing on the bridges was selected to complement the materials of the Vista Hotel but configured to reflect the modules of the Financial Center.

4. Interior of the North Bridge, which is expected to carry 70 percent of rush-hour pedestrian traffic to the Financial Center, is 40-ft. wide. The bridges also carry utilities across West Street to the Financial Center.



1.



4.



3.

be subjected to lateral forces ordinarily transferred to the adjacent earth. So a number of battered caissons have been installed to take those horizontal forces.

Bridges and Landings

The North and South Bridges are Vierendeel trusses. The North Bridge is a 200-ft. clear span by 40-ft. wide inside. The South Bridge is a 220-ft. clear span about 25-ft. wide. Vierendeel trusses were selected so that the bridges could have rectilinear fenestration similar to the Financial Center buildings. These are among the longest spans to be assembled in this country. They were made by a manufacturer in Connecticut and preassembled to check the camber, and brought down in large pieces weighing up to 40 tons or more. They were assembled adjacent to a moving vehicular artery with cooperation of the NYC Department of Transportation, especially Commissioner Arthur Asserson's office. The reasons they are so long is that there were almost no locations for

2. The following are excerpts from an interview with Michael C. Cunningham, assistant project coordinator for Olympia & York Battery Park Company:

A variety of construction, design, and technical characteristics of the site make the project unique, or certainly interesting:

Foundations in the Landfill

Buildings B and D have slurry walls that are built all the way down to bedrock in lieu of the normal sheeting process that is used to construct deep basements. This technique was used at the World Trade Center, but is still relatively unusual. George Tamaro of Mueser Rutledge Consulting Engineers (formerly Mueser, Rutledge, Johnson & DeSimone)—the engineering firm consulting on the foundations—has also used battered caissons. Inasmuch as Westway may be built adjacent to the east boundary of the site, involving some deep excavation after our buildings are up, the Financial Center buildings could

vertical support that would coordinate with Westway. So the columns had to be coordinated with Westway in another cooperative venture.

The width of the North Bridge, which will carry 70 percent of the 25,000 to 30,000 population of the Financial Center, is about twice what is necessary for peak periods. The peak includes a 20-minute period in the morning when there can be about 9,000 people. The width was mandated by the City Planning Commission in order to achieve a civic quality of generous open space.

Relocating River Water Tubes

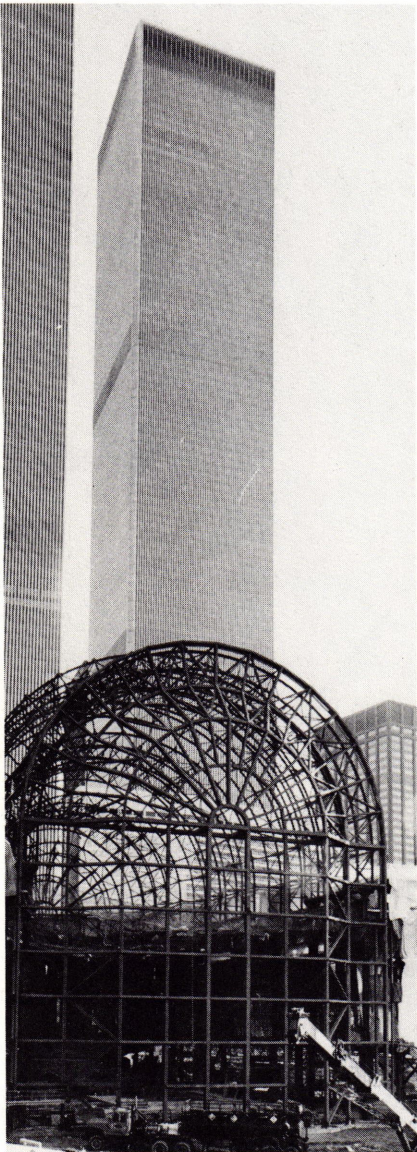
We have worked with the World Trade Center to relocate their river water intake and outfall lines—two 66 in. diameter tubes. The pumping system for these lines is under Pumphouse Park to the north of Gateway Plaza. In order for us to build two symmetrical gatehouses, highlighting Liberty Street, it was necessary for the lines to be relocated. So there has been a great deal of cooperation with the

The World Financial Center

The Winter Garden

The glass-enclosed Winter Garden, a space equivalent to the concourse at Grand Central Station, will contain shops, restaurants, and seating areas. Its focus will be 35-ft. to 40-ft. high Washingtonia Robusta Palm trees that will be brought from the desert of southern California.

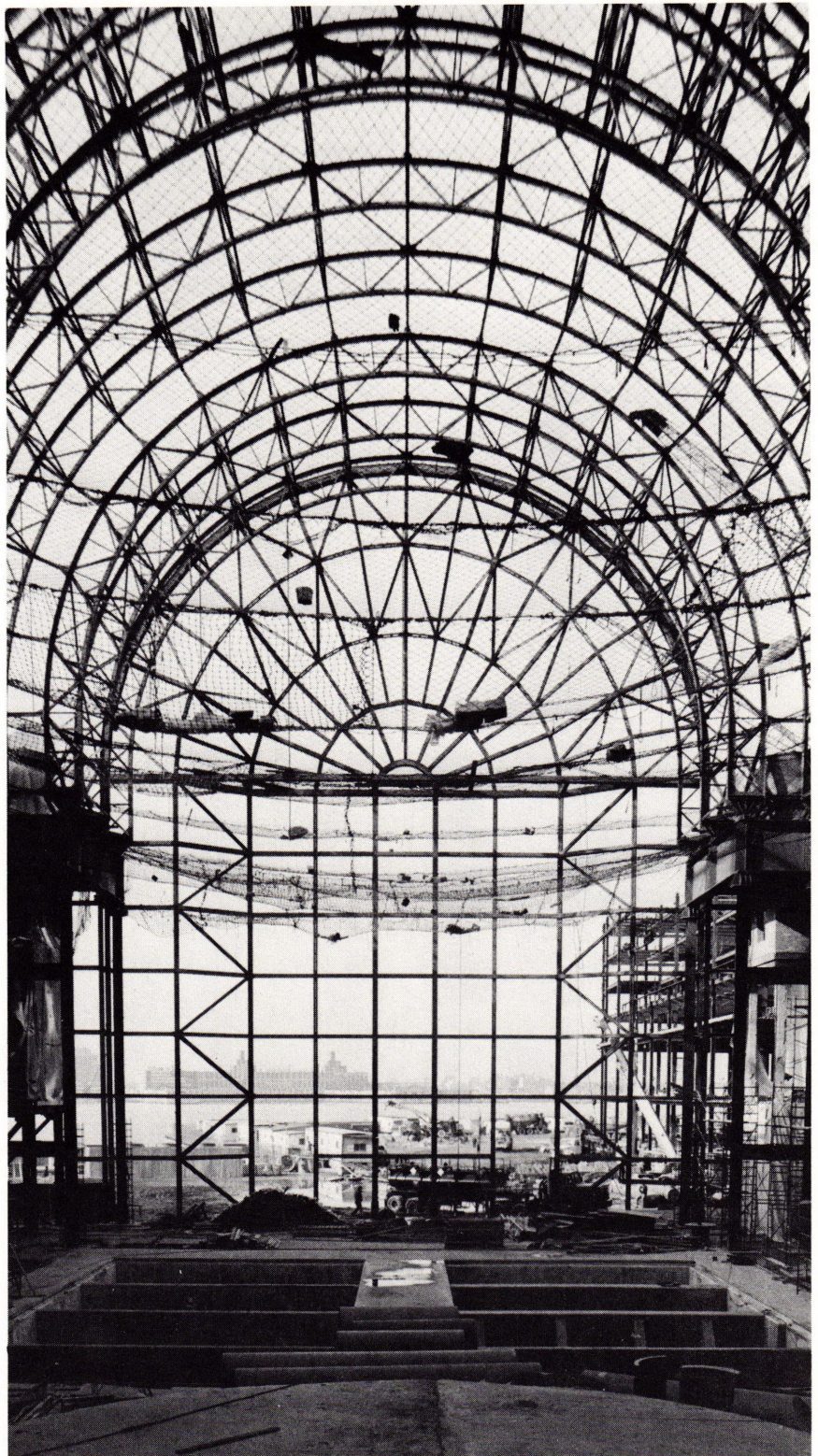
Photos except as noted: Stan Ries



1. World Trade Center (Port Authority of NY and NJ).

Protecting the PATH Tubes

Because of the location of the PATH tubes beneath the Financial Center site — one goes directly underneath the Winter Garden — a series of relieving platforms were built that look to the casual observer like a landfill. These were built prior to the World Financial Center for a variety of reasons, but largely to avoid overstressing the PATH tubes.



2. Spanning the PATH tubes is a concrete structure on piles above the open water. This system both holds up the earth and relieves stress from the PATH tubes. Since we have been driving piles and caissons in the vicinity of the tubes, special care has been taken. And we have worked closely with the Port Authority to coordinate this matter.

One of the idiosyncratic aspects of this condition is that, in order to plant the 35-ft. to 40-ft. high desert palms at

grade in the Winter Garden (avoiding planter boxes), we had to remove portions of the relieving platforms over the PATH tubes (double precast Ts 55-ft. long), exposing open water, and actually restructure the area that runs directly beneath the Winter Garden. The palm trees will sit in two vast planter areas, which are sunk to bring the planting soil to grade level. These areas also serve as return air ducts and will help keep the roots of the trees from rotting. Most visitors to the Winter Garden will not know

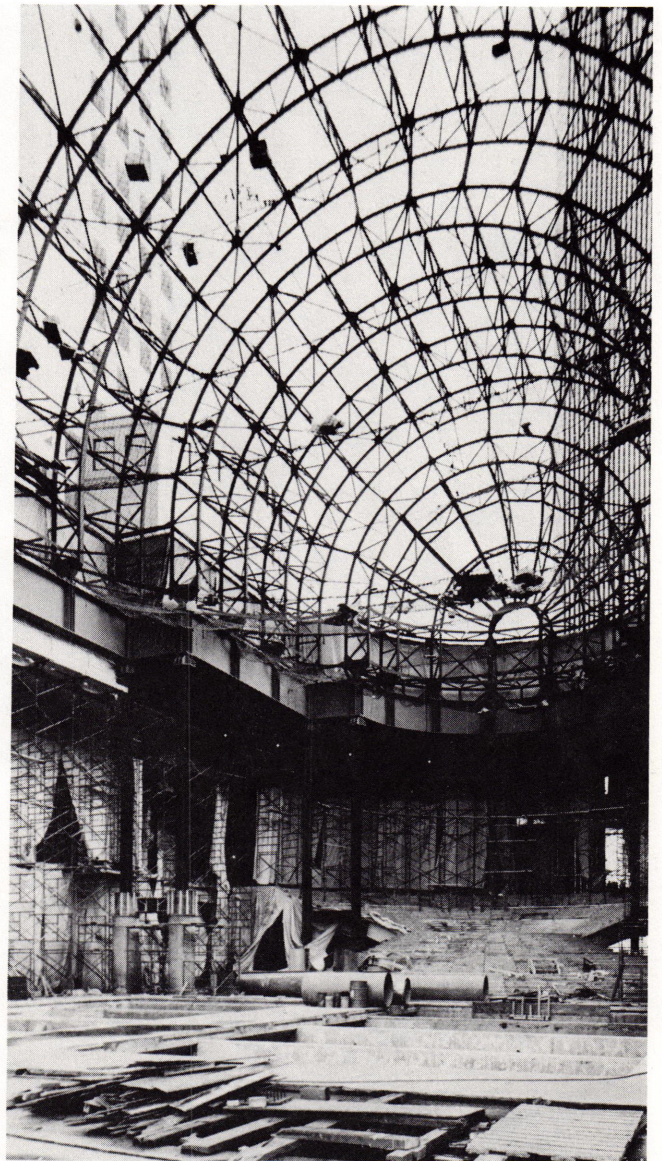
1. The steelwork of the Winter Garden from the River bank.

2. Inside the Winter Garden from the top of the stairs looking west.

3. Model of the Winter Garden interior.

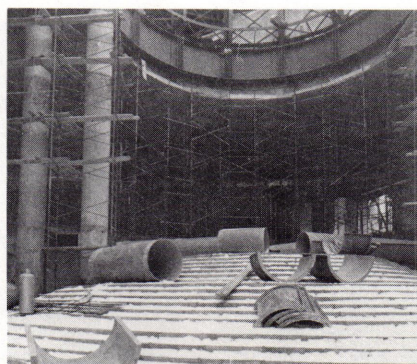
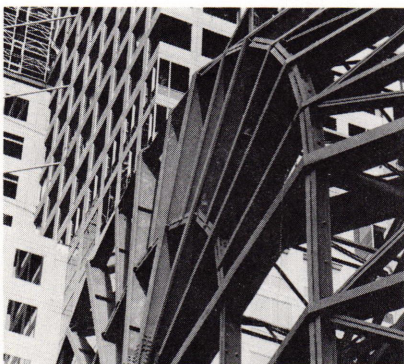
4, 5. The Winter Garden interior as of December 1984.

The sunburst-plan steps in the Winter Garden promise theatrical spectaculars. (Dare we hope that handrails and a ramp up the center can be avoided by providing an elevator at the side? Or perhaps a sign toward that easier route would be sufficient?)



3.

4.



5.

that they are standing on 55-ft. steel trusses bridged directly over open Hudson River water.

These technical challenges have been addressed creatively, sometimes expensively, and always with a great deal of cooperation with numerous agencies. The entire project began in the context of that cooperative effort, originally created by NYC and the Battery Park City Authority, and that has been necessary for the implementation of the project.

The World Financial Center

The Gatehouses

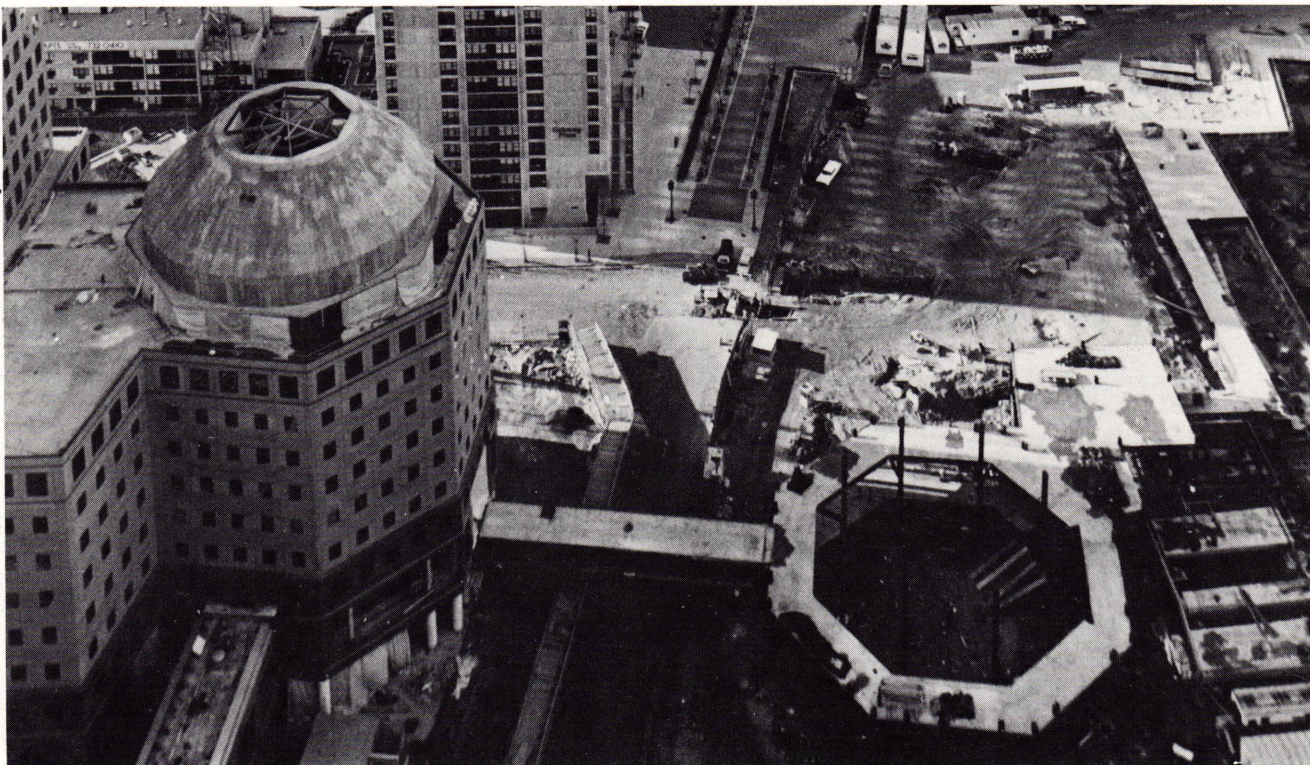
The Gatehouses are considered as part of the towers adjacent. The south Gatehouse is part of Building A—the Dow Jones tower; the north Gatehouse is part of Building B, the first Merrill Lynch tower. Both Gatehouses are nine-story office buildings.

1. View from the World Trade Center of the southern Gatehouse, the initial construction of the northern Gatehouse, and Gateway Plaza towers toward the Hudson River.

2. The 40-ft. high ceiling of the south Gatehouse is of fiberglass with a stencilled pattern.

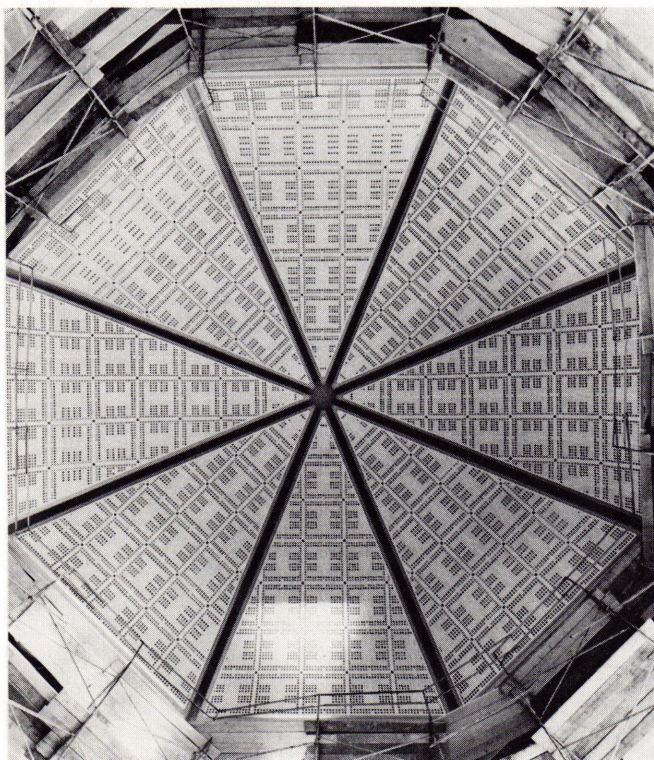
3, 4. The south Gatehouse—attached to Building A at Liberty Street—presents a grand entrance hall with a mannerist double staircase suitable both for major political proclamations and for Busby Berkeley production numbers.

Photos except as noted: Stan Ries



1.

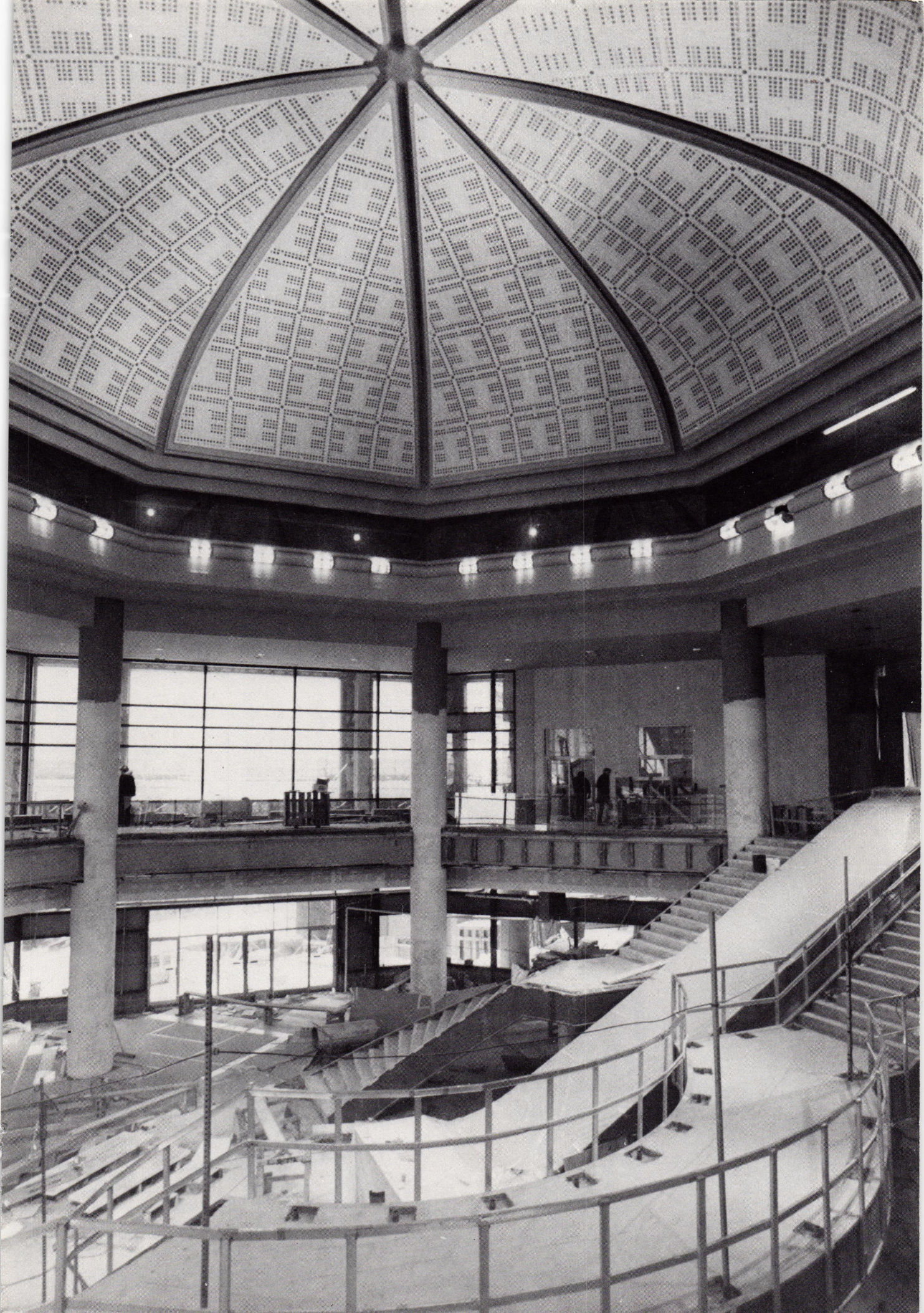
Photo: Clifford Hampton



2.



3.



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