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November 1975

Progressive Architecture

Editorial: Blessing the Beaux-Arts

Performing halls

Introduction: The performance of change
The evolution of changing forms in the performing arts directly affects the architectural design of the spaces in which they perform.

Kind of up-town
Geddes, Brecher, Qualls, Cunningham’s concert hall in the Birmingham-Jefferson (Alabama) Civic Center meets almost any acoustical need.

Orpheus Nebraskensis
Omaha’s Orpheum Theater has been restored to its original splendor by the Leo A. Daly Company and leads a new life as a performing arts center.

Technics: Gloria in transit
A portable theatrical performing tent by Imereo Florentino & Associates is equipped for power, light, and sound. Assembly time: six hours.

Design

Interior architecture: Theater in the raw
Peter Wexler transforms Allegheny’s previously renovated Carnegie Library into a performing space with little money or time.

Interior architecture: Some sound advice
A P/A editor delves into the acoustical quality of some of the newer performing halls and finds some that succeeds and some that does not.

Street smarts
The Arts for Living Center by Prentice & Chan, Ohhausen for New York’s Henry Street Settlement responds sensitively to its environs.

Technics

Specifications clinic: Getting the paper out

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It’s the law

Cover: Underground acoustic facility at the Centre d’Arts in Paris (p. 54). Cover designed by P/A Associate Editor Sharon Lee Ryder from a sectional drawing by the architects Piano & Rogers.
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Circle No. 310, on Reader Service Card
Blessing the Beaux-Arts

November 1975

The old arch-enemy of Modern Architecture, the Ecole des Beaux-Arts, is the subject of a major exhibition that opened October 27 at the Museum of Modern Art in New York. Given the opportunity only every three years or so to expand beyond its own cramped third-floor gallery, the Museum's Department of Architecture and Design is this time devoting vast exhibition spaces to the institution that made Paris the architecture capital of the world in the century preceding World War I.

Though unlikely to redirect the course of architecture, the exhibition is nevertheless a milestone: the citadel of the Modern Movement celebrating the system those Modern pioneers had to overthrow. At the least, the event marks a reconciliation, an expression of respect for the vanquished.

And reconciliation is, in part, its purpose. Arthur Drexler, Department Director who organized the show, does want to give the Beaux-Arts the fair exposure it has so long been denied. But beyond that, Drexler is expressing his exasperation with the Modern Movement. "Modern architecture is in a bad state," he declares, "and the time has come to re-examine its basic philosophical assumptions." Drexler has chosen to stimulate that re-examination not by singling out any promising current directions; instead, he is recalling the virtues of a previously rejected alternative. (This is not his department's first rebuff to Modern architects; its "Architecture without Architects" show of 1964 posed another ominous alternative.)

What most distresses Drexler about the Modern movement is its failure to fulfill the claims of its pioneers: that architecture could produce dramatic improvement in the quality of life. In fact, says Drexler, "the quality of the built environment has declined, and Modern Architecture bears a substantial share of responsibility for that decline." (Le Corbusier's "tower in the park" image, foisted on the public by later architects, is one of its more obvious sins.)

A thoughtful look back at the Beaux-Arts is particularly timely, Drexler feels, because "some of the main concerns of the Beaux-Arts are concerns that are beginning to interest us today." He cites the revived concern over the relation of current architecture to that of the past, a problem extensively examined under the Beaux-Arts; the concepts of public and private—and the circulation systems of these two domains—were also subjects of much study.

The design investigations of the Beaux-Arts are, for Drexler, only part of its relevance to our current situation. At least equally worthy of study today is the Beaux-Arts system of education. By standardizing design methods and criteria, the Beaux-Arts established dependable ways to recognize ability and to pass along accumulated knowledge. By contrast, says Drexler, present day architectural education is disorganized and unpredictable—a dire situation in his view.

In principle, it is only proper to take an unbiased look at the Beaux-Arts, which after all produced much of the architecture around us that we have recently learned to love. But will it make a positive contribution?

In terms of public image, this exhibition and the forthcoming book can hurt; they will expose the lack of conviction in the architectural community and provide pretexts for various attacks.

In terms of architecture's internal dialogues, the event can only help, if it does no more than raise some alarms. A serious examination of the Beaux-Arts (to the extent that it actually takes place) will sharpen our understanding of the early Moderns by clarifying the system they revolted against; it will place us on firmer ground for affirming or rejecting early Modern pronouncements.

Can we expect any lessons directly from the Beaux-Arts? Some, undoubtedly, but we must bear in mind the vast differences in circumstances. Authoritarian methods and standardized criteria cannot readily be transferred to a pluralistic culture. However we may long for the orderliness and confidence of the Beaux-Arts, we can never slip back into our grandfathers' world.
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Long live the pines

Leaping through your August 1975 issue, I noted the article on "Beds of Academe," and particularly the article on Chandler Village at Worcester State College, Massachusetts. I believe the architecture is interesting and valid, though obviously not without its problems (as observed by David Morton).

One particularly jarring note to me, however, is the brutal and incorrect way the pines have been trimmed, leaving long stubs of branches which are unsightly, prevent proper healing of the wounds created by trimming, and which leave the trees very susceptible to disease and insect damage. If the building contractor, landscape contractor, maintenance forces, or whoever is responsible for this outrage, does not know how to correctly "head-up" existing trees, he/they should consult a knowledgeable tree surgeon. There is no excuse for such barbaric practices.

Edward L. Bolce
Consulting Landscape Architect
New York, N.Y.

Quonset trademark

While we appreciate the publicity given to "Quonset" in your August 1975 issue of Progressive Architecture we are shocked at your failure to acknowledge that this is a registered trademark and that it is being used without our permission. Any reputable dictionary will confirm that this is a registered trademark.

National Steel Products Company, successor to Stran-Steel Corporation, developed the "Quonset" building of World War II fame and now markets a line of structures for the agricultural market under this trade name.

Gordon K. Rouze
Assistant Secretary
National Steel Products Company
Houston, Tex.

Middle East correction

The reference for Middle East practice (P/A, Sept., 1975, p. 26) stated that the Overseas Private Investment Corporation (OPIC) in Washington, D. C. offers long-term financing up to 90 percent on eligible projects. The statement should have read that OPIC offers insurance up to 90 percent of eligible projects. P/A apologizes for any inconvenience to our readers due to this error. Further information may be obtained by calling OPIC 202/254-3260. [The editors]

Color meets architecture

Your recent article (P/A, Sept. 1975), "The Road to Zanadu and Beyond" is a great contribution to the use of color in architecture and is even better than the author's previous writing, "The Powerful Hum of Color."

In this day of glass, granite, concrete, aluminum, and bronze, the vibrant excitement of color is a welcome relief. Except in the field of residential architecture, such application of massive exterior color is unknown.

As Chairman of the Inter Society Color Council's major committee, "Color in Building," I welcome such exposure to the use of color. Prominent architects and colorists on the committee have been studying color applications in architecture and find a new interest in the use of exterior color. We have named this the "Brightstyle."

The use of inexpensive substrates such as masonry, steel, and wood require the dimension that good color can contribute. However, color is a dimension not readily understood in technical architectural terms. How does a architect specify a color to be used? By a sample? (It fades.) By a color card (printed in an ink not similar to the actual color and having a proprietary name)? There is an answer offered by the Color in Building Committee and approved by both American Architectural societies. This is the Universal Color Language, an application of the Munsell Color System.

Current committee activities in regard to color specification deal with tolerances, surface dimension such as gloss and pattern, methods of indexing colors for office use, and methods of securing acceptance of the specification.

Your article is a treasure of color usage and can be certainly considered a useful tool in the promotion of color.

Milo D. Folley, AIA
Chairman, Committee 30
Color in the Building Industry
Syracuse, New York
One of the most difficult architectural tasks is the successful incorporation of a highly functional contemporary building into a traditional and eclectic setting. This was the problem confronting Ezra D. Ehrenkrantz and Associates when they were commissioned to design three dormitories to be located in Harvard Yard, the University's hallowed inner campus; the success with which they resolved it has already been nationally acclaimed.

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Soleri introduces Two Suns Arcology

Paolo Soleri presented to an Eastern audience his recently completed Two Suns Arcology prototype of a solar energized city, research for which was substantially funded by a grant from the Xerox Corporation. The model of the Two Suns Arcology next will be on view for 12 weeks starting April 7 at Xerox Square in Rochester, N.Y.

The Two Suns Arcology is based on several effects of the sun. The greenhouse, chimney, and apse effects, as Soleri calls them. An arcology (city) is situated directly above a large, terraced greenhouse which sends up warm, moist air through the chimney effect into the city where it may be used or stored. Meanwhile, apse-shaped elements of the city catch sunlight in the winter providing natural heat; but in summer they shield the inhabitants from hot rays, providing natural cooling.

Soleri for years has advocated a harmonious blend of architecture and ecology ("arcology") and is in the process of building a small arcological city, Arcosanti, near Phoenix, Ariz. (P/A, April 1973, p. 76). His recent appearance in the East, at Spirit of the Earth Gallery, New Hope, Pa., was a fund-raising event to support his foundation's work at Arcosanti. The show and Soleri's two talks were expected to raise several thousand dollars.

Recently completed at the site are a ceramics apse and a second vault; landscaping and new retaining walls have given beauty to the project, which
News report

Montage of Arcosanti site, when completed.

Latest Arcosanti addition, Crafts 3 (left).

Arcosanti Metals by Soleri on exhibition.

"to introduce more clearly and critically" the ecological appreciation he has propounded for years. He named the prototype Two Suns Arcology "because it involves the physical sun ... and the second sun, spiritual man."

The city should not be shunned; rather, according to Soleri, it is the natural evolution from matter (entropic) to spirit (mental). Cities are themselves the result of a natural phenomenon, the urban effect, which is "the most fundamental aspect of life—interdependence." A common mistake is to associate crime with density and city life, whereas in fact "a town was originated to fight criminality." Our cities and natural resources are in a crisis because "we are over-technologized for our spiritual maturity."

The answer is not to abandon technology but to develop a higher spirituality. "This epoch is, through technology, setting us for something not clear but, hopefully, for a greater spiritual intensity," he prophesied.

At present Soleri is collecting material for his fourth book, which will discuss the urban effect in both ecological and theological terms. Other upcoming events and activities include a talk by Soleri before the National Council of Art Administrators meeting in Arizona Nov. 14; an appearance Nov. 18 at Gettysburg College, Pennsylvania; and a tour of Cosanti and Arcosanti by the Associated Student Chapters/AIA.

Parts of the special Soleri exhibition will remain on view at Spirit of the Earth beyond the mid-November closing: these include bronze and ceramic bells and Soleri's newest collection of "Arcosanti Metals"—cast bronze figures several inches high. Some figures are bells and some are set in separately cast metal frames. Also available is a series of four Bicentennial bells to be cast with the 1976 date. These bells are a polished textured cast bronze hanging from links of bronze and copper bars. [AC]

Singer Island competition announced

A major urban design competition has been announced for Singer Island, Riviera Beach, Fla. Sponsored by the city and Singer Island Developers, the competition involves design of an urban street and related commercial facilities. Awards totaling $11,000 are offered, and the winning architect/landscape architect may be selected to complete the project. The professional adviser is Joseph Middlebrooks, AIA. Entries are due Jan. 15. Further information is available by writing Urban Design Competition, Riviera Beach, City Hall, Riviera Beach, Fla. 33404.

P/A jury picks 20 winners

Entries to the 23rd P/A Awards competition totaled 462, compared to last year's 737, reflecting the profession's sharp decline in new projects. The eight jurors picked 20 projects for awards or citations to be published in P/A's January issue.

Chairman of this year's jury was Cesar Pelli, of Gruen Associates, Los Angeles, who had been a juror in the P/A competition seven years ago. Serving with him as the architectural design team of jurors were Arthur Cotton Moore of Washington, D.C., Stanley Tideman of Chicago, and William Turnbull, Jr. of San Francisco. Planning jurors were Raquel Ramati of New York and Donald S. Appleyard of Berkeley. Research jurors were W. Russell Ellis of Berkeley and Gary A. Hack of Ottawa, Canada.

The single family house category contained the largest number of submissions, 79, as it consistently has done, and elicited from Moore the comment, "I think it's too bad, the only time we can find the architect happy and at work is on the single house."

There was a significantly small number of entries, 37, in the multi-family hous-
ing category. This concerned the ju-
rors to the extent that they reviewed
the entire category but eventually only
singled out five for consideration, and
ultimately selected none as a winner.
"Well," said Tigerman, "we can only
respond; we can't initiate." Then he
added, apparently alluding to lean eco-

onomic times, "and that's what's with
these guys—they're responding, too."
Russ Ellis said the research entries—
there were 34—gave him a problem in
that the overall quality was of such a
level that he didn't have a "struggle
picking out the great ones." And he
felt none of the projects made any
breakthroughs.
The planning team was looking for
such criteria among its 61 entries as
language chosen for communication,
invention, implementation, and com-
munity participation. One observation
Raquel Ramati offered was that numer-
ous entries dealt with street planning
but none came out a winner.

Chinese architects
repay U.S. visit

A delegation of 10 architects from Red
China toured the United States for
three weeks this fall, the guests of the
American Institute of Architects. The
visit had been in the planning since a
group of 14 American architects
toured China in the spring of 1974.
Their itinerary included visits to ar-
chitectural offices and tours of 15
cities and communities plus such non-
professional excursions as attending a
horse show in Los Angeles.
The tour began in New York where
they visited the offices of Max Urbahn,
who organized the trip of Americans to
China, and Stern & Hagmann, who
also hosted a reception at the Archi-
tectural League of New York. They
dined at Philip Johnson's, attended a
reception at the home of I.M. Pei, and
paid a visit to Bloomingdale's depart-
ment store.
The one-day stay in Boston included
a tour of the government center and a
visit to MIT where they learned about
computer applications in architecture
and engineering.
In the mid-Atlantic area they met
with senators and congressmen in
Washington, visited Norfolk, Virginia
Beach, colonial Williamsburg, Char-
lotteville, Annapolis, and the new
towns of Columbia, Md., and Reston,
Va. Among architectural sights were
Dulles Airport, the International Monet-
tary Fund Building, a Metro station, the
Hirshhorn Museum, and the new addi-
tion to the National Gallery. They
attended a performance at Kennedy
Center and visited Georgetown and the
White House.
A day was spent in Columbus, Ohio,
touring Ohio State University and vis-
iting a new housing project by SOM
and a discount department store. In
Columbus, Ind., they went on a tour ar-
ranged by J.I. Miller, honorary AIA, of
Cummins Engine Company.
In Chicago for three days, they saw
new buildings downtown, toured his-
toric Oak Park, lunched on top of the
Sears Building, and inspected O'Hare
Airport.
On to Los Angeles, they spent a
morning at Disneyland, visited the Uni-
versity of Southern California and
toured the Bunker Hill renewal area.
Sights in San Francisco included the
Xerox Data Systems Plant, Golden
Gateway renewal project, a BART pre-
sentation, the Oakland Museum,
Ghirardelli Square, and the Cannery.
'Goodbye Five: Work By Young Architects'

An exhibition entitled "Goodbye Five: Work by Young Architects" welcomes art back into the design realm. The show opened at New York's Institute for Architecture and Urban Studies, and is presently available for travel.

Nineteen architects and firms were represented in the show; there were a number who owed a debt to the New York Five and others of the Venturi camp—even a Miesian scheme or two. Yet the show seems to give the lingering impression that the greatest kinship is with the artist: especially the environmental sculptors and conceptualists who have been working the last seven or eight years with three- and four-dimensional light, space, line, form, and symbol.

Although included in the show were architects from as far away as Houston and Chicago in the States and from Austria, Belgium, Holland, and Italy, the exhibit was most representative of the New York thought with its formal substance and intellectual exercises of puns and imagery. Social issues, participatory design, and environmental impact in the ordinary sense were not evident concerns.

Yet each designer was reaching for a level of art which, when absent, causes even the most practical design solution to fail. There is cause for rejoicing that art again is pursued as a tangible—even an essential—part of the building process.

Speaking recently at the Institute on the subject of architecture, spirit, and art, particularly surrealism, John Hejduk, one of the New York Five, remarked that with the swing back to aesthetics from the 1960s preoccupa-
tion with social concerns, architecture will see an influx of art imitators.

"Cheap surrealism is coming," he said, "because people feel they are artists way beyond their competence." He made clear, however, that he didn't hold this opinion of the work in the "Goodbye Five" exhibit.

Among the art-evocative works in the show were Allan Wexler's proposal for interior lighting of the World Trade Center towers at night to create images not only of the familiar Christmas tree but also of buildings such as the Eiffel Tower or of objects like a thermometer. Leon Krier also takes familiar objects—a chair for example—and through a series of drawings isolates the object and renders it disfunctional before recombining its elements into an architectural environment. Massimo Scolari's fine pencil drawings were of irregular geometric forms, and Richard Hammer's schemes combined minimal sculptural forms with existing structures, like a stairway between two buildings, to make a special place.

Technique also was a subject of invention: Susana Torre presented images of window views and photo fragments of memory screened on clear acetate superimposed over an office interior drawing. Studio Works: Hodgsetts & Mangurian offered a dozen or more prints of the same building duplicated in a variety of color photocopies.

Architects Incahoots: Casbarian /Samuels / Timme showed their Peaceable Kingdom School (P/A Sept, 1974, p. 24), a barn structure painted to match the environment, and a proposal for the National Academy of Recording Arts and Sciences Hall of Fame. Stuart Cohen's work included a small vacation home for a bachelor; the "texture" of the interior walls—not to be of rough or unfinished mate-
rials—is rendered by a leafy green chintz wallpaper, designed in the 1880s by William Morris, so that the view inside and out will be foliage.

For details on travel arrangements of the exhibit, write Andrew MacNair (organizer of the show and one of the exhibitors), Institute for Architecture and Urban Studies, 8 W. 40 St., New York, N.Y. 10018. [AC]

Black architects on political move

The four-year-old National Organization of Minority Architects (NOMA), meeting in September in Washington, D.C., was most concerned with the American Institute of Architects' proposed cutbacks in its minority affairs activities. The majority of NOMA's members also belong to the AIA, and although the AIA has cited a slow economy as its reason for budget-trimming, NOMA is fighting to save previous gains.

At stake is the full-time AIA staff position of Deputy Vice President for Minority Affairs which has been slated to be reduced to a part-time job with a reduced budget. In making its stand known, NOMA also has told the AIA that other key positions occupied by blacks, such as the Chairman of the Community Services Commission, must continue to be filled by a minority architect, that the commission's Advisory Council, chaired by a black, must be expanded, and that all AIA committees and task forces must have a minority representative.

NOMA held its convention at the Joint Annual Minority Conference which brings together a growing number of organized minorities in the building field. New this year at the conference was the National Association of Planners. Other conference groups are the United Mortgage Bankers of America, the National Association of Minority Contractors, and the National Association of Housing Specialists. The conference—held to coincide each year with the Black Caucus—attracted 160 registrants, and NOMA, with 28 members present, was the second largest in number after the contractors, who had 88 in attendance.

If the theme in the 1960s was social revolution, the theme in the 1970s, judging by this conference, is political revolution. Beyond dispute, the most rousing speaker during the three-day meeting was Dr. Hortense W. Dixon, executive assistant to the mayor of Houston, whose appeals to rise in unity and grapple with the political system met with bursts of applause and shouts. "You don't get something unless you give something," said Dr. Dixon, reminding them that "power yields nothing to anyone." In particular, she warned blacks not to allow their most valuable property in the inner city to get out of their hands. "In back rooms," she charged, "there are carefully planned strategies for redevelopment of property historically inherited by the poor—often the blacks."

The same position was voiced by Eddie N. Williams, president of the Joint Center for Political Studies, who returned to the theme—originally stated by the 19th-Century black statesman Frederick Douglass—"Power concedes nothing without a struggle." He said, "I find it inexcusable to see how in-architects stay aloof from the political fray and by their example discourage use of political power. Politics must be the new cutting edge of the civil rights movement."

Behind the unrest was an awareness that blacks receive a small fraction of
News report

the available construction work—particularly government work. A NOMA task force researching commissions by the GSA, the leading government builder, over a recent five-year period revealed that $30 million in fees was paid for work, of which minority firms received less than $750,000. Of that amount, $49,000 was shared by black firms and the remainder went to two joint ventures of small black and large white firms—the white firms collecting the larger portion of the fees.

In this area, NOMA feels small firms in general—not just minority firms—are discriminated against, and it has proposed changes to the new GSA architect-engineer selection guidelines. Among them are provisions for redefining the sizes of firms to make more small firms eligible for work and for prohibiting large companies from competing with small ones for even the small projects—as has been the case during the recession.


New officers of NOMA are Leroy Campbell, who takes over from John Chase, president; vice-presidents Har-

old Williams of Los Angeles, Robert Nash, Charles McAfee of Wichita, Kan., and Jeh Johnson; Ernest Clay of Champaign, Ill., secretary; Robert Coles of Buffalo, N.Y., treasurer; and Arthur Silvers of Los Angeles, parliamentary and historian.

Van Bruner of Haddenfield, N.J. was named Director of Student Affairs to begin organizing student chapters of NOMA at some 11 university and college campuses, and Robert Andrews, of Princeton University, will be the president of the NOMA-affiliated student organization. [AC]

Competition design for Harvard sports

For expansion of its athletic facilities, Harvard University has held an unconventional competition among ten architect-contractor teams, in which initial and life-cycle costs were weighed along with planning and design. Result: a winning scheme by The Architects Collaborative with Turner Construction Company, which draws motley existing structures into a well-organized complex and is outstanding for long-term operating economy.

For the participating architects, contractors, and their engineers, the competition represented a substantial expense, only a fraction of it covered by the $5000 honorarium for each losing team. Some teams agreed to participate in the expectation that only four or five rivals would meet the university's exacting prerequisites covering experience and capabilities, but ten teams were ultimately invited to submit design/build proposals. Architecture firms competing besides TAC, in-


Competitors dealt with a highly detailed program calling for 250,000 sq ft of new construction, plus renovation of 75,000 sq ft. Evaluation was carried out by a "technical committee" of 18 professionals from the university faculty and staff in such disciplines as architecture, planning, engineering, construction and financial management, and athletic administration.

The first round of judging did not produce the anticipated winner, but rather a standoff between the TAC/Turner scheme and the one submitted by the Aldrich Company and Richard Moger (with the Carlson Corp., contractors). Each of these teams was asked to submit a revised scheme, responding to a list of deficiencies and discrepancies, for which an additional $10,000 was offered, plus $3000 toward the cost of a model.

Although the Aldrich/Moger/Carlson plan was said to be "impeccable" in terms of functional program, the revised TAC/Turner scheme won on the basis of its urban design qualities, as well as its long-term cost and scheduling advantages. Neither of these submissions was lowest in initial cost—a factor that some competitors assumed would be paramount. Although first costs cannot be easily compared, be-
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cause of numerous alternates, TAC's construction cost of about $14.9 million was roughly the mean among submissions.

What distinguished the TAC/Turner scheme from all the others was the introduction of a raised walkway and plaza level, below which locker rooms and enclosed circulation for athletes and staff are tucked away behind planted berms. The apparent volumes of pool, basketball court, hockey rink, and other playing spaces are reduced. Spectators reach these facilities at an upper level, without crossing athlete circulation or demanding large-volume interior corridors, with their attendant maintenance costs.

Architecturally spectacular solutions were hardly encouraged by the program, with its constricting set of existing buildings, or the competition procedure. Instead, Harvard is getting a sound work of urban design likely to yield long-term satisfaction. [JD]

Canadian competition offers $100,000 prizes

The International Urban Development Competition, Regina, Saskatchewan, Canada, is offering a total $100,000 in prize monies. The five first stage finalists each will receive $10,000; three prizes totaling $50,000 will be offered in the second stage—the division of the monies to be left to the jury. The deadline for entering is Dec. 7; proposals must be received by April 15, 1976. Citizens of Regina will vote on the five finalists, and their selection will be counted as the "seventh member" of the jury. Jurors are Alexander Kouzmanoff of New York; Fumihiko Maki, Tokyo; Ray Affleck, Montreal; Douglas Fullerton, Ottawa; Dick Rendek and Clive Rodham, both of Regina. Further information is available by writing International Competition Registrar, Regina Rail Relocation, 1600 S. Railway St., Regina, Saskatchewan S4P OA8, Canada.

Architects buy S.F. landmark

San Francisco architects Kaplan/McLaughlin and a law firm have recently purchased the registered national landmark Hallidie Building at 130 Sutter St. The architects will restore the seven-story structure and then lease the space when construction is completed in about six months.

The building, considered the world's first true glass curtain wall structure, was designed by Willis Polk and completed in 1918 as a commercial venture for the University of California. It was named after Andrew S. Hallidie, an early regent of the university and inventor of San Francisco's famed cable cars. It was considered unusual in its day for its completely modern, open plan office spaces.

In the 1950s the glass and cast iron ground floor façade was brutally "modernized" and the original blue and gold Victorian Gothic ironwork of the cornices and balconies was changed to a dull green. Kaplan/McLaughlin will return the building to its original colors, which are those of the University of California, and will restore the ground floor façade with materials resembling the original ones as closely as possible. [DM]

Personalities

Joseph Esherick, FAIA, president of Esherick Homsey Dodge & Davis, San Francisco, has been appointed a special consultant on architectural design matters for the Department of State's Foreign Buildings Operations.

David Lewis, partner in Urban Design Associates of Pittsburgh, and Don Stull, head of Stull Associates, Inc. of Boston, have been named to the William Henry Bishop Visiting Professorships at the Yale University School of Architecture, New Haven, Conn.

Hilliard T. Smith, FAIA has received the Gold Medal, the highest award given by the Florida Association of the American Institute of Architects. Howard B. Bochiardy, AIA has been awarded the Anthony L. Pullara Memorial Member Award for outstanding service. Bill G. Eppes, AIA has been awarded the Architect Community Service Award.

Hal Box, FAIA, dean of architecture and environmental design at the University of Texas at Arlington, has been named southwest regional director and a member of the board of directors of the Association of Collegiate Schools of Architecture, and has been nominated to the board of directors of the American Institute of Architects. Robert H. Norris III has been appointed director of professional affairs and career planning and placement at UTA's new School of Architecture and Environmental Design. John P. Shaw will serve as a visiting professor in the school during the fall semester.

Hubert E. Jones has been named an associate professor in the Department of Urban Studies and Planning at the Massachusetts Institute of Technology, Cambridge, Mass.

Richard L. Tully, FAIA, senior partner of Tully, Ames, Elzy & Thomas of Columbus, Joseph Tuchman, FAIA, senior partner of Tuchman, Canute, Ryan & Wyatt of Akron, and Alexander C. Robinson, III, FAIA of Cleveland have received the Gold Medal from the Architects Society of Ohio.

George E. Kostritsky, AIA, AIP, president of Mt. Vernon Associates and a principal of Architecture Planning Research/Associates of Washington, D.C., has been named professor of architecture at Howard University, Washington, D.C.
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Calendar


Dec. 3-5. Conference on health facility planning and design in the developing countries, co-sponsored by the Health Services Planning and Design Program of Columbia University's Graduate School of Architecture and Planning and the World Trade Institute, One World Trade Center, New York.

Dec. 4-6. Fourth national seminar on bicycle and pedestrian facilities, sponsored by the Metropolitan Association of Urban Designers and Environmental Planners, Marriott Hotel, New Orleans.


Feb. 3-6. Thirty-first annual conference of the Reinforced Plastics/Composites Institute, Shoreham-Americana Hotel, Washington, D.C.

Feb. 27-Mar. 27. "Form, Space and Symbol in Chicago Architecture" show, Cooper Union, New York City. The exhibit is organized by Stanley Tigerman, Benjamin Weese, and Stuart Cohen with Laurence Booth as advisor, and is supported in part by a grant from the Illinois Arts Council.


Mural, mural on the wall
A blight called "battleship gray" or "federal green" has besieged federal office interiors for years. So a recent exhibit at the National Collection of Fine Arts, Smithsonian Institution, Washington, D.C. came as a startling surprise that there was a golden age, not long ago. "Art for Architecture: Washington, D.C. 1895–1925" celebrated the marriage of academic art and architecture so briefly consummated in America.

Inspired by the Renaissance in name (if not always in spirit) and by the vision of Chicago's World's Columbian Exposition of 1893, architects, sculptors, and mural painters collaborated in the decoration of over 400 buildings across the nation. Their art was meant to edify. A mural incorporated into architecture linked its buildings and occupants to the march of civilization. But the trauma of World War I crippled our faith in progress. After the lessons of mechanized war, we cannot see those allegorical figures extolling the virtues of culture without a smile.

The exhibit included photographs of completed murals in situ as well as original studies from seven architectural examples in the capital: Library of Congress, Larz Anderson House, Capitol, Evening Star, Georgetown University, Lincoln Memorial, and St. Matthew's Cathedral. Much of this is forgotten by official Washington—if not already destroyed. As such, the show and its checklist (GPC 891–749) seem that much more precious in the land of battleship gray. [RY]

Construction ban extended in Miami
A ban on major new construction projects in Dade County, imposed in April over problems with the local water supply, has been lifted. Only recently had the ban been extended to mid-November, but its removal was made possible by allowing more water to be pumped from the Biscayne Aquifer.

The ban covered all construction that would use more than 1300 gallons a day—including major apartment and office buildings. County officials said the moratorium was needed because the Miami-Dade Water and Sewer Authority already was committed to deliver more water (210 million gallons per day) than it was allowed to pump (190 million daily).

The county also has been caught in controversy over zoning. Recent zoning decisions there and in St. Petersburg County have ignored comprehensive planning. In Dade County an auto dealership was allowed to locate in a residential area. In St. Petersburg 10 acres of peripheral metropolitan land was rezoned for four-story apartment buildings. People in the adjacent middle-income subdivisions have filed for redress in court.

Women's Hall of Fame competition
A competition to select a woman architect to design the Hall of Honors in Seneca Falls, New York, for the Women's Hall of Fame is underway, and the winner is expected to be named in the spring. When the competition was announced earlier this year, the response was so great that selection procedures had to be changed. As a result, a committee of nine was named to screen recommendations from which 12 will be asked to submit architectural plans.

An AIA jury then will meet to pick the winning design. The 11 participants in addition to the winner will receive cash awards. Those on the selecting committee are Nehama Courland, Doris Nathan, Joan Kavochka, and Eleanor Pepper, all of New York state and city chapters of the AIA; Megan Lawrence and Lenore Lucy, both of the Alliance of Women in Architecture, New York; Susana Torre and Marita O'Hare, both of the Archives of Women in Architecture, New York; and Ellen Berkeley, architectural critic.

Hardware handbook soon to be available
The Streetscape Equipment Sourcebook jury met at the AIA Headquarters in Washington, D.C. earlier this year to review 283 entries of street furniture ranging from high-mast lighting to paving. Sponsored by the Center for Design Planning under a grant from the National Endowment for the Arts, the selection process aims to give recognition to manufacturers and designers of street furniture of superior utility and visual appeal by publishing for the first time in the United States the juried results in a sourcebook.
Members of the jury were: Herbert A. Goetsch, president of the American Public Works Association and commissioner of public works, Milwaukee; William M. Goldsmith of Chicago, chairman of the Industrial Designers Society of America; William G. Swain of Pittsburgh, immediate past president of the American Society of Landscape Architects; Ralph Warburton, professor of architecture at the University of Miami, Coral Gables; and Harold Lewis Malt, ex-officio, industrial designer and planner, who is director of the Center for Design Planning. The Advisory Board to the Center includes representatives from AIA, ASCE, and NAHRO.

The jury selected 206 pieces of equipment from 57 manufacturers for inclusion in the Sourcebook. Ninety-one of the selections were in the "housekeeping and amenity" category which included litter receptacles, decorative and drinking fountains, clocks, newspaper racks, benches, planters, bike racks, and tree guards. Forty-six entered products were selected in the lighting category, among them high masts, and roadway and walkway fixtures.

The jury noted the relative lack of well-designed products in the areas of emergency call boxes and parking meters and the prevalence of massive electro-mechanical traffic control equipment in an era of miniaturized transistor technology. The jury also noted that the variety of well-designed products, which would be placed in varying environments, requires sensitive urban design to provide an optimal public space.

Publication plans for the Sourcebook, to be modeled somewhat after the successful British Design Index, are underway with availability expected in 1976. [Ralph Warburton]

'Continuous You' at South Bend

A stainless steel sculpture polished to a mirror finish and lighted by neon and argon-mercury lamps provides a welcome to the new pedestrian mall in downtown South Bend, Ind. The city commissioned sculptor John Mooney, a former Notre Dame faculty member, to create the piece, which stands 17 ft high. Its strengths, he feels, are its day and night versatility: by day it reflects the surroundings and by night it creates its own environment.

“This union,” declared Mooney, intensifies “the aesthetic heartbeat” of those who use the mall. The placement of the work, called “Continuous You,” off the mall’s axis draws pedestrians “like a visual magnet” causing them to become participants. The red and blue gaseous lamps are programmed to slowly change their intensity providing the work with its own kinetic quality.

Raymond Loewy: on loving a car

Man’s best friend is his car—not his dog. Our technological slaves serve us with such grace and devotion that they might be nature’s own creations. Of course they are not. The refrigerators, cars, packaging, and interiors we use are the products of a handful of gifted industrial designers and their followers. The Renwick Gallery, Smithsonian Institution, Washington, D.C. is currently honoring one of the most distinguished pioneers in "The Designs of Raymond Loewy" through Nov. 16.

Loewy’s approach to industrial design has been characterized as "streamlined." That is, individual parts of an industrial object conform to a coherent overall impression. Awkward passages are pressed inside a smooth envelope. Structural transitions are concealed in rolling surfaces. Paradoxically, each completed form is infused with a dynamism which need not reflect its mechanical anatomy at all.

Since his successful redesign of the Gestetner duplicating machine of 1929, Loewy continues to pursue this vision of technological unity so characteristic of the modern movement. The array of his projects on display at the Renwick, including such well-known designs as Air Force One, Avanti, Coca Cola dispenser, Coldspot refrigerator, and packaging for Lucky Strike and Carling Beer, attests to how well he knows his craft.

Arrangements are being made for the show to travel to other museums after it leaves the Renwick, which originated the exhibition.

An illustrated catalog is available for $2.50 plus 50¢ shipping and handling from the Museum Shop, Renwick Gallery, Smithsonian Institution, Washington, D.C. 20560. [RY]
News report

In progress

1 North Carolina School of the Arts—Newman Van Etten Wintflee Associates of Winston-Salem, are architects for a $3.8 million performing arts facility for high school and college students. Now under construction in Winston-Salem, the workplace will be a multi-level arcade connected to an existing linear classroom building and a gymnasium via bridges and stairs. In the new facility will be all training activities relating to music, dance, drama, and the library. Faculty offices will be along the arcade to encourage contact with passing students. Completion is scheduled for 1977. Acoustical consultants are Bolt Beranek & Newman of Waltham, Mass.

2 Theater, school, apartments in high-rise—A zoning variance permitted the first theater in 40 years to be built on the East Side of New York. The 250-seat hall is part of Marymount Manhattan College’s expansion program, recently completed by architects O’Brien & Justin of New York. By leasing air rights over its new structure to an apartment builder, the school easily financed its construction costs. The first six floors of the 27-story building are for school use. The theater, as well as the new 2-story library, are available to the community as well.

3 Government building underway—A 500,000 sq ft building plus garage for 800 cars is under construction next to the old Knox County Courthouse. The $25 million new building will serve as administrative offices for the city of Knoxville and the county. Architects in the joint venture are McCarty Bullock Holzaple and Lindsay & Maples, both of knoxville. The main building is 13 stories and includes courtrooms and a jail. An assembly building, with rooms seating 450 and 250, connects to the main structure by a 2-story bridge.

4 Library at San Diego—Bursting at the seams with a third of its collection in storage, the Scripps Institution of Oceanography is building a new library in San Diego; completion is scheduled for October next year. The La Jolla firm of Liebhardt Weston & Goldman is designing the $2.5 million facility, located just above a new marine biology building. Most of the three-story structure will be built into a hillside, and sun-shading concrete panels will protect the façade. The architects estimate that 48,000 kwhr will be saved in heating and cooling the building.

5 Summer stage for the performing arts—Construction should be finished by May 1976, on the new $6.5 million summer home at Fairmont Park of the Philadelphia Orchestra and other performing arts groups of the city. The shell seats 5000 while an additional 10,000 may be seated on the grass. The design objective of architects MacFadyen De Vido of New York was to accommodate the visual and acoustical requirements into a cohesive whole of a single form clad in terrast steel. Acoustical consultant on the project is Heinrich Keilholz of Hanover, Germany.
Speculation office park—The Lake Complex is a six-building office “campus” oriented around a small lake near St. Louis, Mo. The development company Blakewell Corporation-Corporate Square came to the Saint Louis Group, architects, with pre-purchased fabricated steel from which the architects devised one prototypical framing plan: a "T" shape. The low structures are finished in hard iron spot coppertone brick, solar glass, and a copper roof. The 1.5-acre lake also functions for waste water control.

Ballet home—For 35 years the American Ballet Theatre has been homeless, storing its scenery in Philadelphia and music and costumes in various locations around New York. Soon it will move into a home: the renovated Manhattan Center, which was built in 1906 by Oscar Hammerstein as an opera house. Architects Johansen & Bhavnani of New York are in charge of the $10 million project which will include storage space for five complete shows, accommodations for radio and television broadcasts, new lobbies, circulation and signage systems, and high density public elevators. Work will begin next year and be completed in 1977. Theater consultant is Clyde Nordheimer of Jean Rosenthal Associates.

Bank in Virginia—Scheduled for completion in January, the Clarendon Bank & Trust headquarters building, Tyson’s Corner, Va., rises on the highest spot of Fairfax County with a panoramic view of metropolitan Washington. Its three components are 4, 8, and 12 stories built of steel frame and precast concrete panels. Banking operations will occupy half of the 150,000 sq ft net area with the other half available for lease. Parking is for 600 cars.
News report

In perspective

New England tradition
Ecodesign of Cambridge went out of its way to make sure Westford, Mass., had new fire and police stations worthy of the colonial ambience of the town. Being the first building erected in the town in 100 years, the new facilities deserved to be the best, yet the town was small, and the times hard.

The architects realized that the townspeople's taste—ruling out "Disneyland colonial"—and their original budget were incompatible, but Ecodesign saw a solution in applying to the Economic Development Administration set up by the Secretary of Commerce. Not only did they locate the source, but they also rushed the plans to meet the application deadline—and as a result secured $314,000 funding of the $445,500 building, which opened less than a year ago.

This made the firm's design proposals all the more acceptable when they were presented at the town meeting where, in New England custom, 600 people (the client) came to vote on the project. What won their approval was Ecodesign's careful presentation showing how the linking of the new stations to the 150-year-old Town Hall was in the native tradition of interconnecting farm buildings or of joining church structures to the parsonage.

The structural forms, although contemporary, are based on the same strong simplicity and grace which characterizes buildings of the New England village. The white aluminum siding, maintenance-free, is handled like wood and from a distance is virtually undistinguishable from the natural material because Ecodesign detailed the corners with real wood.

Although linked by a covered walkway, the police and fire stations are practically independent. Even Ecodesign's suggestion to have a common lounge was rejected because the police department felt the firemen, volunteers, had more leisure time and would be a poor influence. The sparing use of windows in the police station also was among the chief's requirements.

The fire department chose to keep such traditional—now optional—features as the pole and the hose-drying tower. The more modern approach to parking fire trucks was used, and so the trucks enter the double-door garage from one direction and exit another. With both of these doors of glass, they provide an excellent opportunity to view the nearby woods.

The training area of the fire station is a second-story loft suspended by cables from the roof truss. Overhead is a skylight that also illuminates the first floor entry. The pole well, marked by a narrow, two-story-high window, is painted green inside so that when lit at night it provides a bright contrast to the white exterior.

The solution further intensifies the compactness of the New England town by relating closely to the Town Hall and forming a court between the buildings, which leaves the prized town green undisturbed for another generation's enjoyment. The stations have won for Ecodesign an Honor Award from the New England regional AIA.
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*Installations shown, clockwise from top:
GIMBEL GYMNASIUM UNIV. OF PA, Philadelphia, Pennsylvania
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SARAH COVENTRY BUILDING Newark, New York
CARD EMPORIUM New York, New York

Arch: Bartley, Long, Mirenda, Reynolds & Noble
Arch: Lambert J. Soucek, Jr.
Bank Building Corporation
Fabr: Van Dam Iron Works, Inc.
Arch: Sherman & Sherman
Fabr: Vance Metal Fabricators
Arch: Lee Kennedy
Fabr: Allied Bronze*
In perspective

Fitting in
A new 50,000 sq ft, three-level building has been slipped into a posh suburb of New York City, hardly noticed.

Design of the new 200,000 volume library at Sarah Lawrence College in Bronxville was dictated primarily by two concerns: the rocky, sloping site and the residential character of the surrounding neighborhood. In response to these conditions, architects Warner Burns Toan Lunde partially imbedded the structure into the rock, and also broke the main building masses into small, slant-roofed sheds. The recently finished building is unmistakingly "modern," but the fractured arrangement of its masses around an open courtyard, and the consistent use of sand colored brick for the walls, reminds one more of old French farm buildings than of the typical American college library building.

Because of the excavation around the building the entrance is at the middle level. From grade, a wooden bridge spans the courtyard to the main entry. The courtyard itself becomes a well to bring light to the center of building's lowest level. On the north and east sides the walls are extended to form enclosed, outdoor patios that also function as light wells.

Inside, carpeting is laid in "supergraphic" patterns to define various areas and to relieve the monotony usually found in stack areas. In the lounges, easily movable furniture is installed so students can arrange it as they wish; one lounge is furnished with styrofoam-filled "bean bags."

The building structure is poured-in-place concrete, with steel beams, steel decking, copper finished roofs and, of course, the sand-colored brick which is used for both interior and exterior walls. In addition to elevators, spiral steel staircases connect levels, but the main stairwell is a brick-enclosed cylinder that protrudes into the courtyard where it is seen as a silo-like form.

Ivy will soon cover much of the building, and then it will blend so well with the bucolic setting it may be missed if one isn't looking for it. [DM]
The performance of change

The evolution of changing forms in the performing arts has a direct effect on the architectural design of the spaces in which they are to be performed.

The human race has, for centuries, supported, encouraged, and participated in the performing arts. Whether theater, ballet, opera, or music, people flock to be spectators of each other and of the performance that unfolds on stage.

When compared to the social and technological advances that have been realized since the time of the Greeks, the evolution of these art forms over the centuries of their existence seems imperceptible. The form of the Greek theater, determined by the need for speech clarity and good sight lines, was a pragmatic response to the performance of their drama. The linear, attenuated qualities of the Gregorian Chant were well suited to the dark, mysterious realms of the Medieval church; the composition and performance of chamber music and the early, small scaled symphonic works in drawing rooms and salons dominated an era of princely court patronage. Historically, the evolution of an art form was rather closely tied to (and dependent upon) the concomitant evolution of the form of the place in which it was presented.

Looking at the constructions of the last half of the 20th Century, it might be reasonable to question what has become of the continuity of tradition. Operatic and musical composition, as far as public taste is concerned, halted abruptly after the turn of the century and recently completed halls attest to these tastes in their mock 19th-Century splendor. Performance of contemporary music is mostly relegated to church basements, yet when performed by a major symphony orchestra in a concert hall, it is still presented in the most traditional manner. The new French Institute for Research and Coordination into Acoustics and Music is the only new facility for contemporary music that will once again encourage and support the traditional relationship between art form and place: It is a space for composition as well as performance.

The theater has been the one realm where, at least on the surface, experiment has taken place both in content and presentation, allowing a less formal surrounding and, presumably, more intimate involvement on the part of audiences. At one extreme is the Living Theater's interpretation of classic drama which forces reaction and response to the actors as they confront members of the audience. It denies the passive, spectator role of the audience simply because it makes most of the audience uncomfortable, whether or not they choose to respond. As these dramatic forms break from the traditional format, the theaters have gone from the opulent, gilded proscenium to construction scaffolding and bleacher seating. All the gadgetry and technology for variable theater seating and flexible staging has proved so burdensome (and virtually useless) that other devices have been found which accomplish the same ends more simply. Concepts of set design, too, have changed from the realism of painted backdrops to the more abstract representations of space and ambience through light and sound.

Yet somehow, in the end, these devices only involve us for the brief moment of their novelty or newness; their value lies in the unexpected. The manner of staging may or may not have anything to do with the intent of the drama; it may broaden and intensify our experience at the same time that it obscures the essence. Meanwhile, our comfort lies in remaining as spectators to an on-going drama of performance which has at once nothing and everything to do with our own experience. [Sharon Lee Ryder]
The sound in the new Concert Hall in Birmingham, Alabama, by Geddes, Brecher, Qualls, Cunningham can be adjusted to meet almost any acoustical need.

The new Birmingham-Jefferson Civic Center Concert Hall is one part of a much larger complex located on 23 acres of urban renewal land adjacent to the city core. When the entire center is finally completed—only the coliseum and landscaping are left to be finished—Birmingham will have a new 100,000-sq-ft exhibition hall, a 17,000-seat coliseum, a 1000-seat theater, and a 3000-seat concert hall.

The buildings are organized on the site to relate to each other both physically and visually. Physically, they are tied to each other by a series of walkways and ramps; they are associated visually by facing into an inner courtyard, and consequently, into each other. The main reasons for this arrangement were the surrounding mixed-use industrial buildings and an elevated expressway at the southern border. With such surroundings and no chance for controlling them with a future renewal program, the architects turned the buildings in on themselves and got an extra urban bonus through the creation of the new inner courtyard, which will soon be complete with fountains, outdoor seating, and restaurants.

The walkways ringing the courtyard make it a special place to promenade and to see and be seen, since going to the theater, a concert, or exhibition is an event in itself in Birmingham (as it surely is almost anywhere). The difference in Birmingham, however, is that this idea of promenading is carried a little further; it is consciously admitted and reflected in the buildings, and particularly in the concert hall design, where the sweeping forms of the lobbies and stairs were specially shaped to encourage and enhance the act of promenading.

The most important part of the concert hall, however, is beyond the lobbies, in the auditorium itself, and particularly in the space above it. In the auditorium the 3000 seats are broken into smaller groupings than would be normal in a hall of this size. Because of the architects' desire to have as many people as close to the stage as possible, the room is extra wide, with the back wall closer to the stage. The width permitted (and required) more aisles; this in turn allowed...
The four buildings at Birmingham-Jefferson Civic Center face to an inner courtyard, away from the surrounding neighborhood (site plan, left). A pedestrian mall connects the center to Wilson Park and downtown. In the Concert Hall (this page), seating is broken into small groups, as in some European halls, to bring a sense of intimacy to the 3000-seat hall.
Concert Hall's lobbies (above and below, right) and terraces (below) are designed for promenading. Acoustical attic (far right) controls sound.

The clustering of seats into relatively small groupings, giving each cluster an "identity" of its own, and bringing the large hall a sense of intimacy. The idea is carried further in the balconies; they are designed as a series of separated, cantilevered trays that jut into the space at different angles and at different depths, thus reinforcing the idea of intimacy and negating the anonymity so common in large halls. If the hall is reminiscent of Scharoun's Berlin Philharmonic Hall, it is not surprising; it was that hall that convinced the architects to follow through with this design.

Above the auditorium, a huge acoustical chamber controls the sound reverberation time from the stage, depending upon the degree to which its doors are opened or closed. When the doors are closed, as they are for speech,
the reverberation time is one second; when completely opened, as they are for opera or orchestral works, the reverberation time is two seconds. In addition to the many adjustment points between these two extremes, the system is augmented by rows of motor-operated felt curtains within the chamber. In effect, the hall can be adjusted to meet virtually any acoustic need. And, in fact, a speaker on the stage can be heard clearly on the last row of the top balcony without amplification. None of this is gimmicks, though. The acoustics are reported to be superb.

In the concert hall the same materials are used that are used throughout the rest of the center. The building is steel frame, in this case with double walls. Like the other buildings, though, it is clad in precast concrete panels. Inside, the same red carpeting, vinyl asbestos tile, and specially finished concrete block partitions common to the center are used. The lighting is either downlights or wall washers; there are no chandeliers. The consistency of materials comes from the desire that no building in the center should seem to be favored over another, but the effect of it is simplicity and discretion.

Soon after the opening of the concern hall, dance critic Oliver Roosevelt of the Birmingham News wrote, "During our ballet intermission we could look out our mural windows and see the audience lining up for the Dionne Warwicke show a couple of hundred feet away. That's kind of uptown, now, isn't it?" He may be right in the kind of ambience he was thinking of, but he surely could not be thinking of the designs for most of the other new "cultural" centers in the uptowns of the U.S. In most cases, wouldn't we be very fortunate to be able to say, "That's kind of Birmingham, now, isn't it?" [David Morton]

Data

Project: Concert Hall, Birmingham-Jefferson Civic Center, Birmingham.

Architects: Geddes, Brecher, Qualls, Cunningham; Robert F. Brown, associate designer; John Serke, project manager; Peter Frink, theater designer; Ronald Frost, construction superintendent.

Program: a 3000-seat concert hall designed to meet an extremely wide range of acoustical requirements, and to relate to other major facilities of new civic center.

Site: 23 acres of formerly mixed-industrial, urban-renewed land adjacent to the core of the city.

Structural system: steel frame with double wall and roof.

Major materials: exterior is clad with precast concrete panels; walls in public circulation areas are specially finished concrete block. All ceilings are plaster, walls in audience area are plaster. All floors are carpeted.

Mechanical system: terminal reheat air conditioning has large ducts to allow introduction of tempered air at low velocity to eliminate acoustical interference. A large acoustic chamber over seating area controls reverberation time of sounds emanating from stage by opening or closing its doors; this system is augmented by rows of motor-operated felt curtains within the chamber.


Client: Birmingham-Jefferson Civic Center Authority.

Costs: $18,325,000 was the cost for 3000-seat concert hall and 1000-seat theater; the costs have not been separated.

Photography: George Qualls except bottom left p. 42, courtesy Dover Stage Lifts.
Orpheum Theater, Omaha

Orpheus Nebraskensis

For the third time since its original opening in 1925 Omaha celebrates a new life for its Orpheum Theater; the Leo A. Daly Company leads community efforts.

If you are a Nebraskan born about the turn of the century, last January 17 was the date for a nostalgic revisit to an old friend. Even if you couldn’t remember when Omaha’s glittering Orpheum Theater—or, earlier, the Creighton—hosted the vaudeville and stage stars of the late twenties and early thirties, the evening was memorable.

The occasion marked the reopening of the Orpheum after the years of decline that followed the death of vaudeville. Converted for movie use, the theater did a slow fade and finally closed in early 1971, after losing money for two years. What had been a splendid French Renaissance-Revival house by Rapp & Rapp of Chicago in 1927 was a shambles in 1971. According to the Leo Daly Company’s observations, the roof leaked badly (small waterfalls), and plastic sheets had been suspended under the ceiling to protect patrons from falling plaster. Chandeliers and walls were dulled by layers of dirt, seat bottoms were gum-covered and graffiti filled all restroom walls.

You wouldn’t recognize the place now, unless you were one of those aforementioned Nebraskans; then it would look marvelously familiar. It looks just like it did in its heyday, but with a new role. Today it is Omaha’s Performing Arts Center (still called the Orpheum), host once again to full-dress audiences and star performers, now of music, dance, and drama. But before the transformation and the gala opening came the hard work.

Beginning in 1972, a proposal for the Orpheum’s conversion to a performing arts center was made by Downtown Omaha, Inc. The only facility Omaha had for performing arts was its civic auditorium with vastly inferior acoustics. A local nonprofit civic organization, Ak-Sar-Ben, offered to buy the $135,000 theater and give it to the city on the condition that the city refurbish it. In response, the city formed the nonprofit Omaha Performing Arts Center Corporation to run the theater and issued $1.5 million in revenue bonds to pay for remodeling.

Still there were roadblocks: a newly discovered tax delinquency of $14,000 turned up in county records; because
Walls and ornament (top, left), coated with dirt before cleaning (upper photo), were restored to original condition (lower). At the outset, (above, below) falling plaster and years of dust.
the lobby belonged to another building, rent money would be required; and projected expenses outstripped built-in contingencies. The 1972 city administration agreed to foot half of the tax bill, but the new 1973 administration balked at both the tax bill and the lobby arrangement. Finally, however, the City Council and Downtown Omaha, Inc., agreed to split the tax bill, and Omaha businessmen offered to raise at least $250,000 to cover rising restoration costs. The county agreed to grant the theater tax-exempt status, after payment of delinquent taxes. But there was still the lobby. There was also determination; a scant 16 minutes before Omaha's mayor planned to veto a City Council resolution for restoration contracts, the Omaha Symphony Association announced its intention to purchase the 3834-sq-ft lobby for $72,000 and grant the city its free use. With these developments, the City Council voted to accept low bids for general construction and to increase the city's stake from $1.5 million to $1.8 million.

Now that the political/economic battles were won, the physical effort could begin. Orchestrated by the Leo Daly office, it was a composite group that moved in on the old hall. Restoration, as distinct from remodeling, was the concept put forth by the Daly group from the beginning. With the seemingly endless rise in costs, the cause was taken up by many interested individuals and groups. One "group," Stanley Gross and George Rice—the Omaha Theater Organ Society, Inc.—resumed their work on the huge Wurlitzer organ, a volunteer service before the Orpheum closed, for the same fee as before, none. It is their hobby; Gross teaches chemistry and Rice is a research assistant, both at Omaha's Creighton University.

Yet another organization, members of the College of St. Mary Alumnae Association, mobilized to clean 300 bronze and crystal light fixtures, saving an estimated $30,000. Several contractors donated work amounting to thousands of dollars. Painstaking craftsmanship of the type presumed dead for decades was required in many areas. The fallen plaster decoration, for instance, had to be reconstituted by using castings from moulds of adjacent intact examples.

Among the few major changes from the original plan, the extended stage is probably the most visible. Site size precluded the desired 20-ft repositioning of the rear stage wall, so a compromise of 15 ft brought the total depth to 45 ft. Existing columns were repositioned to give the backstage an unobstructed 80-ft width. The orchestra pit was enlarged to hold 80 musicians instead of the original 20, and a new hydraulic forestage lift was installed, possibly a first for restoration. With the lift, the orchestra pit can be stationed at various depths; the organ can be moved with the orchestra, or used on-stage; scenery can be easily moved from lower storage to stage; main floor seating can be expanded, using the lift platform, as can the stage itself.

The audience seating capacity was reduced from 2877 to 2700, because of the pit expansion, provision for wheelchair patrons, and to allow the wider seats required by this decade's audiences. New avocado green nylon seats were selected to blend with the original design. Silk wall trim panels were changed to cloth-textured vinyl to comply with fire codes. Existing stage-level dressing rooms were re-
moved, and new ones were built in the basement where, in 1927, rooms that housed the animal acts were located—including animal bathtubs. Other deviations from the 1927 design were minor ones involving updating water fountains and adding lighting (mostly hidden) in the auditorium.

After removing the hot pink popcorn stand, which movie days had inflicted on the lobby, the space was repainted and the original furnishings were returned. Original draperies were cleaned and rehung, and the cleaned and rewired chandeliers were installed. Heating and air conditioning were upgraded, as were the stage rigging and the sound systems.

Acoustically, the hall was found to be dead—acceptable for movies and sound systems, but not for performing arts. Acoustical consultant Robert C. Coffeen called for a de-mountable, movable shell, with adjustable depth, on stage for performances and a flat ceiling that could be flown from the rigging. One other major addition to the acoustics is a proscenium sound reflector, an “eyebrow” above the stage to direct sound. Symphony performances dictated the hardening of sound in some areas, so convex diffusers were installed on the side aisles, and a major convex dome was installed in the ceiling.

The Orpheum seems to have no enemies. It has so endeared itself to the public that it has been host to sellout audiences since that night in January. Its rich unamplified acoustics have earned it praise from many quarters, and it pleased the visiting Harkness Ballet Company as well.

Like Oakland’s Paramount (P/A, July 1974, p. 50), the Orpheum story embodies all the elements of civic determination at many levels—technical proficiency, design care, and just plain love. Omaha and everyone involved in the Orpheum’s rebirth deserve to be proud of it. They are to be applauded for giving our cities yet another precedent to follow. Try it, you’ll like it. [Jim Murphy]
The "Mighty Mobius" tent designed by Imero Fiorentino Associates is a portable theatrical performance space equipped for power, light, and sound generation.

You can still find places without electricity in New York City. On May 22, 1975 the American Symphony Orchestra entered the Sheep Meadow in Central Park to play a Bicentennial evening concert. Awaiting it was an audience of New Yorkers sprawled on a grassy field. Plus an unusual creature called the "Mighty Mobius," a theatrical performing tent by Imero Fiorentino Associates, lighting designers, designed to accept power, light, and sound equipment.

What seemed, at a cursory glance, like just another tent did not behave so passively at all. From the edges of its fabric a galaxy of light burst forth in a parade of changing constellations. Sound issued from its flanks in great swells and soft whispers. And the interior, which the tent parted open on two long sides of an elliptical plan to reveal, was a rotating turntable stage.

The performing arts share an affinity for al fresco surroundings that is at least as old as Greek drama. Natural circumstances have conspired with the performers to enhance the presentation: a hillside cups its audience in a natural amphitheater that focuses sound projection and clears sight lines for each spectator to the performing space below him.

Our civilization is too impatient to scour the landscape for natural amphitheaters. So the "stage" must travel to us. A good many outdoor plays and concerts are thus housed in somewhat jerry-built constructions. Their casual approach to the problem can often be seen more as an excuse to relax outdoors than to attend a live performance.

The "Mighty Mobius" is a solution to its designer's own recurring outdoor assignments. IFA needed a portable proscenium stage that could facilitate rapid changes of sets and performers, carry and sustain any combination of theater, arena, and special effects lighting and, not incidentally, provide a platform for sound-reinforcing equipment.

Though a previous solution ran sets, performers, and flat cars on railroad tracks past a fixed scaffold stage, its components were not especially portable.

Redefining the solution as a 32-ft-high tent upon a stan-
The "Mighty Mobius" takes form. Left to right, top to bottom show various stages of assemblage: tent is hoisted to final position when ring rises to top of support tower; two arches that hold tent's lower boundary are pinned to plates 70 ft apart on scaffold platform; turntable structure is centered around heavy cast core from which putlogs will radiate; tent membrane is attached at side to arches and at center to ring before hoisting; the completed tent at May 22, 1975 Bicentennial concert in New York; turntable receives putlogs and wedge-shaped planks.
Technics: Tent

The “Mighty Mobius” in plan, with trusses in place and cables taut.

The play’s the thing promises so often necessitated by the absence of adequate outdoor structural support for stage apparatus. A battery of portable generators is also available to supplement or entirely deliver electrical service.

IFA has created lighting designs for countless visual spectacles such as sports, theater, television, and music. The firm is convinced that lighting for show business should be designed by specialists—certainly not by architects alone. The architectural technique for designing light distribution is simply too inflexible for the dynamic lighting requirements of performers. Nor do manufacturers generally provide the needed design sophistication.

A complete discussion of these architectural shortcomings could fill more pages than are available here. IFA does offer the following food for thought:

1. What mix of activities must be lighted? Since professional sports competitions may cost more to stage than an arena can recoup, many a program manager may want to include other forms of entertainment whose lighting designs differ enormously. Basketball has little need for follow spot lighting. A circus needs many such units and the ports in which to place and operate them.

2. Are there adequate roof and catwalk load capacities and working space? Show business requires a variety of technical devices whose preferred operating position is often above the performers and the audience. This places a considerable live load on the roof structure, which must be planned to accept extensive and spacious catwalks and service elevators to give stage technicians ready access to working stations.

3. Are there appropriate personnel to operate the lighting? Sophisticated new equipment may strain both the skills and patience of stagehands and their unions. Before an architect and his lighting designer specify technological wonders, they must be sure the house can operate them.

4. Will the light beams clear all major building structures? Horror stories about lighting schemes that never reached the stage are all too common in show business. A building’s structure must not interfere with its lighting plots. Careful checking by the lighting designer can prevent this.

5. Where is power, and how much is available? Show business lighting needs heavy power requirements, especially for television. The sources must be convenient and generous. If an unimpeded floor is vital to performers, the power drops would be better placed high overhead.

6. Will the building’s HVAC handle lighting heat loads? As energy problems remind us, lighting generates a lot of heat. Formidable show business lighting heat loads must be well ventilated by an HVAC system sized to take them.

7. Who is the lighting designer/consultant? Office and factory lighting are generically different from that of show business. A good theater lighting designer has proved himself—in the theater.

In this context, the “Mighty Mobius” serves as a practical test laboratory for IFA lighting techniques. Because of its popular demand by performers, the tent has traveled to an extreme range of environments. Its versatility seems to be more in its willingness to accept an endless array and arrangement of equipment than in its nature as a tent. As one would expect, the secret of show business lighting is controlling where it wants to go. Playful and unpredictable as it may seem, the “Mighty Mobius” has found that secret.

[Roger Yee]
In performance with the "Mighty Mobius." Left to right, top to bottom: support tower and cantilevered truss beams carry comprehensive lighting installation; Be Kind to People celebration in Washington, D.C.; Bicentennial concert in New York with American Symphony Orchestra and Macy's fireworks display; on the road with the Rolling Stones, for whom a special tent design was developed and installed.
Interior architecture

Theater in the raw
Taking over the renovated Carnegie Library, the Pittsburgh Public Theater found the cupboard bare, and set about the task of filling it economically.

When architects Demaino & Pedone renovated the Carnegie Library in Allegheny, Pa. several years ago, the thought was to use one of the spaces for the 300-seat Allegheny Community Theater. But it turned out that if 300 seats were put into the space, virtually no room would remain for a stage or the actors. Except for occasional functions, the space was not used for over a year after the renovations had been completed. The Pittsburgh Public Theater, under the artistic direction of Ben Shaktman, took over the space for a 12-week season opening this fall and Shaktman invited Peter Wexler to design their three productions. When Wexler arrived in Allegheny and found the group with little money and the theater with no seats, he had to find a solution.

Fascinated by the existing space with its Romanesque-arched brick walls, he left it untouched, as an envelope, and inserted the theater structure into it. His idea for the theater seating, stage, production, and costumes was that they be temporary: rented, demountable, and returned when no longer needed. It involved limited investment in permanent equipment for the group with a limited budget. The theater structure is created from scaffolding and pine planking, three levels high, reaching to the underside of the lighting grid (already hung in anticipation of the space being used as a theater). The first two tiers are used for seating; the third tier has additional stage lighting. The bleacher seating on the main floor and on the scaffolding is simply detailed—foam cushions, canvas backs, and wood arms—for about $4 a seat. For two of the productions, the seating will remain as shown; for the third, the bleachers on the main floor will be swung around to form a U.

The theater was set up in three weeks' time (budget was not the only limitation) by employing local young people. The entire theater including seating, costumes, lighting, and scenery for three productions plus labor and fees was done for less than $80,000, about one-fifth of what it would cost to do a production at the Met, and they already have seats. [Sharon Lee Ryder]
Some sound advice

Using words to describe sounds we cannot see leaves us wondering if what we mean by what we say has anything to do with what we thought we heard.

Two elderly ladies were riding the escalator in New York's Philharmonic Hall shortly after it opened when one lady, seeing the Lippold sculpture suspended directly above her, asked her companion if she knew what it was. The companion, looking up, replied, "You don't suppose those are the bad acoustics everyone's been talking about?"

Now, 13 years later, it's easy to be amused by such tales as Philharmonic Hall undergoes it seventh, and hopefully final, renovation. But back in the late 1950s and early 1960s when the hall was being designed and built, in an age of post-war technology when America was experiencing the prosperity of Supreme Being, the expectation was that this new concert hall would be the finest in the world. It would have been un-American to have expected otherwise. After all, good halls had been built for hundreds of years; it seemed mere child's play compared with sending men into space.

But as the first sounds were heard on opening night, it became clear that man's expected marvels had not materialized into a magnificent hall. The critical reviews that followed were, to say the least, unflattering. While everyone was quick to criticize, it became painfully clear that no one knew quite what to do. The profession of acoustics was not the exacting science that everyone had blissfully assumed—not that many would have considered it an art.

Wallace Sabine, a physics professor at Harvard University, is credited with the first acoustics research around 1900. In an effort to explain the phenomenon of the audible persistence of sound in a room, he postulated a theory of reverberation and developed an equation for calculating its length. For more than 50 years, reverberation was considered the one key ingredient necessary for a successful musical space, while the realm of acoustical knowledge abounded with myths to explain various otheronic phenomena.

The Philharmonic Society's concern for the acoustical quality of the new hall, expressed in a letter to Bolt, Beranek & Newman, the initial consultants, was totally preoccupied with getting just the right amount of reverberation time. At the time of their Philharmonic commission, Leo Beranek undertook an analysis of the world's major concert halls (Music, Acoustics and Architecture, John Wiley and Sons), the first effort that had been made to analyze criteria for the musical experience and establish some design parameters. The irony is, of course, that three months after the publication of this work, Philharmonic Hall was judged a failure. The Philharmonic Society should have been pleased: The hall had a classic, mid-frequency reverberation time of 2 seconds. The problem, then, was obviously much more complex than adequate reverberation time. The "missing bass," reputed to be lurking behind the clouds, was never found, even after the ceiling was pulled down and replaced. As studies and experiments continued in an effort to untangle the mysteries of this failure, many other factors began to emerge as necessary components of successful musical acoustics and a rather shaken profession began trying to counter its severely tested credibility.

Just how does one design a hall to ensure a good acoustical environment with any accuracy or predictability? Assuming that the acoustical consultant has done his homework and knows how to isolate the structure from aircraft vibration, fire and police sirens, as well as other miscellaneous air-borne noise, assuming he has isolated the structure from the vibrations and noise of any mechanical systems, and assuming he has succeeded in keeping all children under the age of 12 out of the hall, he is then ready to proceed.

Prior to any presumed body of knowledge, a hall like Boston Symphony (1900) was modeled after the hall it was replacing, The Boston Music Hall, which was copied from the New Gewandhaus in Leipzig which was copied from the old Gewandhaus. Without much working knowledge of the reaction of sound in a contained space, this method proved useful. Assuming the original hall was good and that a more or less faithful copy was made of the overall proportions and construction methods as well as all the detailing, then the results were fairly predictable, although one could not say just why, with any certainty.

Predictably, science has advanced to the point where such outright plagerism is no longer necessary, and designers can get on with the business of being inventive. Progress has led us to believe that, in any


Boston Symphony Hall, model for the classic, rectangular concert hall.
contained space, there are three components to the listening experience: direct energy, sound waves reaching the listener directly from the source; reflected energy, direct sound which is bounced and scattered from nearby surfaces before reaching the listener; reverberant energy, the audible persistence of a sound once the source has ceased vibrating.

While seemingly a rather simplistic analysis, it is the critical balance of these three elements that determines the actual quality of sound which is perceived by the listener. This singular "quality" is, in reality, a complex synthesis of many factors. Beranek, in his book, was perhaps the first to analyze and define these factors and, while the importance he may attribute to any single one may be questioned, his overall analysis remains useful for communication. Intimacy, warmth, clarity, liveliness, balance, blend are some of the words used to state the qualitative criteria.

Yet, given all the definitions, there is no formula, partly because we are dealing with the difference between acoustical measurement and perceptual experience. As late as 1969, Theodore Schultz of Boit, Beranek & Newman published a paper in the *IEEE Journal* detailing the results of some research experiments. In a simulation of the natural patterns of sound in a concert hall (direct, reflected, and reverberant energy), some rather startling findings emerged. Removing the low frequency energy from the direct and reflected sound was not considered a significant decrease in bass by 61 percent of the test subjects, while removing the same low frequency energy from the reverberant field was considered a significant decrease by 93 percent of the subjects. Obviously, the ear didn't need to hear the low frequency energy in the early arriving sound. As long as it was present in sufficient strength in the later arriving sound, the perception of warmth (bass) remained.

But what also remains is the rather critical energy levels that had to be maintained between the direct, reflected, and reverberant fields. In the same test setup, when the level of the reverberant energy was dropped 2 decibels and the low frequencies again removed from the direct and reflected fields, there was a significant detection of loss.

**A mixed bag of tricks**

No current practitioner would quarrel with the need for intimacy, warmth, clarity, balance, etc. The means to these ends, however, while not hotly disputed (except, perhaps, by music critics), vary considerably from one consultant to another. Paul Bonner of Texas won't live without his "bumps" even though he has a hard time convincing some architects of their virtues; Christopher Jaffé won't give up his forestage canopy; BB&N favor variable reverberation (in case of difficulty); Cyril Harris won't take on a job if it can't come out looking like Boston Symphony Hall; and Paul Veneklasen is deep in unravelling the mysteries of floor slope. In all fairness, it must be said that, despite the quiet fanaticism, each professional favors those devices which, in his experience, have succeeded in the past. There are no revolutionaries in this field and even someone like Harris, whose work has stirred little controversy, won't really discuss a hall until it is completed.

**The American experience**

As if by way of apology, acousticians are all very quick to point out that the American predilection for multi-use halls has made the problem of musical acoustics even more difficult. These types of spaces must also be adequate for opera, ballet, and theater, requiring articulate speech and enormous stage houses for storing scenery. The pure concert hall, a precedent in all of Europe's great halls, finds infertile soil here where the economics in most communities cannot support a single-use space. Increased audience size, another result of economic considerations, is also antithetical to good acoustical design. Listening to opera at Washington's Kennedy Center with its 2400 seats is a participatory experience, while one remains a spectator at the 3800 seat Met in New York.

These two types of facilities, single-use or multi-purpose, also reflect the two prevailing approaches for the development of good acoustical design. The pure concert hall approach uses only the boundary surfaces for the development of all acoustic criteria, while the multi-purpose hall, of necessity, must also employ inner systems. The rectangular shoebox-style hall, like Boston Symphony Hall or the Grosser Musikvereinsaal in Vienna, are models for current pure concert hall design by Cyril Harris. So far, Harris has been responsible for such reported successes as the Concert Hall at the Kennedy Center and Minneapolis' Orchestra Hall, and he is currently laying his reputation on the line by undertaking the latest renovation of Philharmonic Hall.

Both the Concert Hall and Orchestra Hall make use of boundary surfaces to realize acoustic criteria. The orchestra is positioned on a raised stage along one narrow end, speaking directly into the main volume of the hall. This source area is unyielding (rigid); the three walls, ceiling, and floor reflect all of the sound energy generated by the Orchestra. The vertical splays along the rear and side walls of the stage, as well as throughout the rest of the hall, help diffuse the sound. Likewise, a hexagonally coffered, plaster ceiling and the 11 crystal chandeliers, each 12 ft long, act as diffusion elements in the Concert Hall, while a different architectural device for the same purpose was employed in Orchestra Hall. The two balconies, tilted slightly downward toward the orchestra area, are detailed in a similar manner to the side walls. In this type of hall, these fascias are critical in returning reflected energy to the center of the orchestra seating area, as are the angled side walls surrounding the stage area. The volume above the balcony, called a "hard cap," must be sufficient in size to develop the reverberant energy.

Because of the reliance on the boundary system for the distribution of sound, there are certain predictable characteristics to the quality. As all of the energy from the orchestra is returned directly into the volume of the hall, the first rows of seats often suffer from a glut of sound, particularly at the louder levels, that may not be as balanced orchestrally or contain as much reflected energy as farther back in the orchestra seating. In addition, it is more difficult to obtain a multiplicity of early and secondary reflected energies when relying strictly on boundary surfaces unless the hall has been kept narrow enough. Some noted European halls have successfully added an inner system of reflectors over the stage to change the ratio of direct to reflected sound, reducing the arrival time of early reflections in the mid-frequencies while allowing the low frequencies to reach the upper, reverberant portion of the room. The reverberant field in these halls, however, more than adequately emphasizes the low frequency energy. (The Concert Hall at Kennedy Center has a decay time of 2.5 sec. at the low frequency end, 1.8 at mid frequency). This type of hall generally never fails in this regard as the sheer volume of the space allows the lower frequencies to develop sufficiently. A rough figure given by most acousticians is 300 ft<sup>2</sup> per person for adequate volume, although this figure can vary considerably (Boston has 252 ft<sup>2</sup> per
Concert Hall 250 ft² depending on the seat spacing, since occupied seats constitute the major absorptive area in any hall.

In adapting the full stage, multi-purpose hall for concert use, two different approaches can be taken. The first follows the theory of the pure concert hall, using the boundary surfaces and erecting a contained shell (one that reflects all the sound energy) on the stage as was done in Ford Auditorium in Detroit. These types of shells are not appropriate, however, when the volume or shape of the hall are not sufficient for the full development of necessary early reflections or of adequate reverberant energy.

Another option is to move the orchestra forward of the proscenium, closing off the stagehouse completely, as was done in Hamilton Place, Hamilton, Ontario, by Russell Johnson (formerly of BB&N). Again, the volume and shape of the space would determine whether the boundary surfaces could be relied upon for the development of all acoustical criteria or whether suspended reflectors should be added.

The last approach developed to date uses the stagehouse as a reverberant chamber, acoustically coupled to the main space. An articulated shell (lighter in weight than a contained shell, more easily moved and adjusted) is used to surround the orchestra and to reflect mid and high frequency energy. Low frequencies pass through the shell into the upper stage-house area, because of the type of shell construction. Provided there is an adequate opening into the main volume, this low frequency energy can be re-introduced into the main hall rather successfully. Surprisingly enough, Carnegie Hall, although a pure hall in other respects, demonstrates this principal well because of a small stagehouse behind the proscenium curtain and above the lightweight canvas reflectors. In the renovation of the Portland Convention Hall, where it is not possible to couple the stagehouse directly to the main volume because fire codes dictate that a fire curtain must remain closed, Paul Veneklasen electronically coupled the spaces with a microphone pickup in the stagehouse and speakers mounted in the rear side walls.

If all else fails
One interesting outgrowth of the multi-purpose hall has been the development of devices for variable reverberation times. The principal exponent of this approach is Bolt, Beranek & Newman as well as two former members of the firm, Russell Johnson of New York and Jack Purcell of Purcell-Noppe, Los Angeles.

For the Spokane Hall, a multi-purpose hall using the coupled stagehouse as a reverberant chamber for symphony concerts, Jack Purcell developed a series of 10 curtains above the acoustically transparent wood ceiling, any number of which can be drawn to cut the mid frequency reverberation time from 2.1 to 1.6. Hamilton Hall uses floating balconies as a means of distributing reverberant energy to the nor-
The new concert hall for Denver takes its form from the Berlin Philharmonic. A canopy, positioned over the orchestra, and reflecting panels sloped close to the angle of the seating will ensure that adequate reflected energy reaches the audience in the circular hall.

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The concrete stage enclosure of Ravinia with acrylic reflector panels.

The acoustic arena

Perhaps the area of greatest acoustic experimentation lies in the outdoor music pavilions, where it may be easier, having broken some of the rules, to break a few more. Most pavilions seat more people under cover than any acoustician would permit in an enclosed hall (3500 or more) and, without benefit of walls except around the orchestra enclosure, the development of acoustic criteria depends entirely on the use of inner systems.

Ravinia, the summer home of the Chicago Symphony, is an astonishing facility, in many respects better than a good many enclosed halls in this country. The current facility was renovated in 1970 when a new orchestra enclosure was added by architects Holabird & Root with Jaffe as the acoustician. The existing location of the pavilion close to the property line made it impossible to design a reverberant chamber to the rear of the enclosure. Instead, Jaffe designed a concrete stage, twice the size of the former one, then installed a series of movable, vertical acrylic reflectors. When pulled away from the concrete walls, these reflectors allow a reverberant field to develop behind while reflecting and blending the mid and high frequencies for orchestral balance. An overhead array is used to deliver early reflected energy to the audience area. The natural reverberant field, four articulating speakers gently assist in giving clarity to soloists.

A sound field is established in the grassy area adjacent to the pavilion by the use of column speakers for delayed direct sound reinforcement with clusters of three reflected energy speakers mounted directly beneath. Jaffe has quite successfully developed sound fields of this sort for the New York Philharmonic in Central Park and for outdoor concerts in St. Louis. A simulation of the natural listening experience can be achieved by the careful placement of direct source speakers with the proper time-delay, coupled with delayed, reflected energy speakers.

The Hollywood Bowl

Like Philharmonic Hall, the Hollywood Bowl has been plagued with acoustical difficulties since it was built and, like Philharmonic Hall, it is currently undergoing yet another renovation. The similarities end there, however, for the Bowl’s physical problems seem so insurmountable that it is a wonder anyone would risk his reputation trying to correct it. Paul Bonner, as the Bowl’s current acoustical consultant, is feeling rather humble.

The principal concern at the Bowl has been to provide adequate sound for 17,000 seats. Besides the problem of size, the Hollywood Freeway, police helicopters, and stray airplanes produce sonic marvels more audible in the upper sections of seating than the full orchestra.

The current proposal for the Bowl renovation is the most extensive yet undertaken. It includes a new, demountable shell with more adequate backstage facilities (and, presumably, fewer inherent acoustical difficulties) as well as a distributed, low-level sound reinforcement system intended to create uniform sound pressure levels in all seats. This type of system, a concept without precedent, calls for a large number of small speakers to be mounted under the wooden seats and spaced 15 ft to 20 ft horizontally, row by row. The speakers would furnish a low level of sound slightly after the arrival of the direct sound by means of a digital delay. Reinforcement systems, with the proper time delay, can raise the sound level 3 db without the slightest detection by the listener.

There seems to be one inherent conflict in the application of this type of system to this situation, however. In order to maintain any sense of realism with a sound reinforcement system, the level of sound from the speaker must be perceived as lower than the direct source and arriving slightly later. Given the lack of direct sound pressure in the upper sections of seats, if the reinforcement level is raised 3 db above the level of direct sound, source identification problems might result for the listeners. Yet, if it doesn’t have sufficient strength, it’s impact will be negligible.

Even if a critical balance can be established, the concept behind this type of system (other types of speaker systems have been ruled out as inappropriate) raises another concern. Bonner describes the theory as being able to move the listener’s ears to the front row while leaving his body seated. The perceptual experience of
Distributed, low-level system proposed for sound reinforcement in upper seats.

The proposed shell for the Hollywood Bowl would be a space frame structure with a demountable shell hung from the trusses.

sitting 500 ft from the orchestra while the orchestra sounds as if it were a mere 50 ft away may result in such confusion for the listener that, no matter how subtle any reinforcement system is, its benefits may not be fully appreciated.

A test of the system was made by installing a limited number of these speakers, 15 ft apart, in the rear section of seats. Theoretical criticism aside (for what in the end matters is not what you think, but what you hear), the system, in actual fact, does acceptably raise the level of sound without causing any source identification problems. When the balance between the direct sound and the reinforced level is properly adjusted (and the tolerance range is very small), an awareness of the system comes only when it is switched off. (The preference established during the tests was 1 to 2 db louder for the system with the time delay in the range of 320 ml sec. at a distance of almost 500 ft. Even though the system is louder than the source level, identification problems do not exist because of the Haas effect: the principal which says, basically, that with the proper delay time, reinforced sound will be perceived as lower, although it may be as much as 3 db louder.) As a consequence of establishing the right delay and the proper level of the system, perceptual difficulties are not an issue partly because the listener is, in fact, not transported to the front row, but, rather, gently lifted off his seat. Problems of budget, maintenance, and installation aside, if the system is used, the sound at the Bowl will be positively enlightening.
Concord Pavilion

The newest pavilion to open is Concord, outside San Francisco designed by Frank Gehry with Jaffe as the acoustician. The pavilion itself is a full 360 degree (off-center stage) facility with a raked lawn on three sides, and, in many ways, this facility offered Jaffe the opportunity to test many of his concepts that will be incorporated into the Denver facility. There is a canopy over the stage for reflecting and blending sound within the orchestra. A ring of the reflector panels encircles the outer edge of the canopy to distribute reflected energy to the audience. As with any circular facility, the direct sound field is less intense than one might like, due to the fact that there is no enclosure for the orchestra. What is gained, however, is an intimacy and involvement with the performers, not present in more traditional facilities. This configuration also precludes designing a reverberant chamber and, as there was no fascia on the roof to contain any of the reverberant energy, other means had to be found to maintain a sufficient reverberant field. This was the first opportunity Jaffe had to try the moat concept. Here, as in the design for Denver, the space underneath the orchestra is used to develop reverberant energy which is then reintroduced into the pavilion through an acoustically coupled opening surrounding the moat. In addition, an assisted resonance system was installed, incorporating a series of frequency-selective microphone resonators mounted full circle just above the edge of the reflector panels.

The microphones pick up reverberant energy which is then strengthened and reintroduced through a series of speakers mounted above the canopy. During the design stage, the pavilion roof had been raised 12 ft to conform to local building code requirements, adding considerable volume to the pavilion. When the facility finally opened, the reverberant field was too developed and absorptive material had to be added in the catwalks above the canopy. Another change, as a result of the increased roof height, was the loss of some of the reflected energy toward the rear of the audience, and Jaffe feels that more reflectors extending further out would have helped. Here, as in Ravinia, Jaffe employed a series of articulating speakers to enhance soloists' voices but, while the effect is not as subtle, the problem lies not in the concept but probably in the volume setting or microphone placement. Regardless, the sound for the 3000 people within the pavilion is still remarkable. What is more astonishing, however, is the quality of sound for the 6000 people on the lawn. Although time-delayed reinforcement of the direct sound occurs through five speakers mounted along the periphery of the roof, it is not necessary. The configuration of the lawn provides enough visual intimacy that the natural sound levels, though weaker than inside, would probably suffice. This is one case where Jaffe should have left his electro-acoustical baggage at home; his natural talents are enough.
Musical acoustics

Centre d'Arts

Curiously, nowhere in our progress, has anyone willingly broken all the rules. We seem still rather intent on building opulently traditional facilities for rather conventional music. Historically, in Europe, musical forms developed partly as a response to the spaces in which they would be performed, but what would Philharmonic Hall inspire, except perhaps a Lament in B minor. It seems natural, then, to look to Europe for the tradition of continuity (or vice versa) and to the first facility that does represent a radical break from the traditional format. The Institute for Research and Coordination into Acoustics and Music will be headed by composer Pierre Boulez, currently the Music Director of the New York Philharmonic Orchestra. The facility, part of the Centre d'Arts in Paris, is sponsored by the French government and designed by Piano & Rogers, winners of the Plateau Beaubourg competition.

The Institute will encourage a range of interdisciplinary research by both scientists and musicians into such subjects as psycho-acoustics, computer science, theories of sound, perception, linguistics, and sociology, and is intended primarily to support the continued exploration into contemporary music, its composition and its performance. The means and the end are one and the same: a space that is for performance, research, and composition. The space is 35' x 90' x 45' high with a capacity of 400 people; all six sides are variable. The ceiling is vertically movable in three independent sections allowing a 4:1 volume change; the floor is a modular panel system with interchangeable finishes; the walls are a series of rotating triangular panels, with one reflecting surface, one absorbent surface, and one diffusing surface allowing a 4:1 variation in reverberation time. Beyond the physical capabilities of the space, a computer will provide added electronic reverberation as performance or composition demands. In addition to film and slide projection capabilities and a total cover sound system, a series of rolling beams will be used for spatial interaction of performers. The space is conceptually an instrument, to be played, programmed, and explored. It was never conceived as a completed, finite object, but more as a tool for process and evolution of ideas. What results from its use will be limited only by the imaginations of the people using it.

Faint imitations

Except for black tie, rustling silk, opera lights, and limousines, what's really happened to the experience of going to a concert? Why has all our progress left us somewhere just after the turn of the century, building faint, steelframe imitations of past grandeur? Why does it take the French, handly in the forefront musically, to establish the first experimental facility, while our only outrageous offering is Virgil Fox playing the Rodgers Electronic Organ at the Fillmore East. (The French, alas, also invented son et lumière.) Where then is the state of our art, that we are still striving to build adequate traditional concert halls when generations have succeeded before us? Where then is our art, if concert hall architecture only panders to the tastes of audiences whose mu-
Section through the Institute for Research and Coordination into Acoustics and Music in Paris is part of the Centre d’Arts. The large space at the far left is for composition and performance; the other spaces are for research. Photo (below) of the Rug Concerts held during the summer at Philharmonic Hall, New York City.

Musical preferences don’t include much composed after 1920. In recent years during the summer months, a series of Rug Concerts, started by Boulez, were held at Philharmonic Hall. Seats were removed, rugs and cushions put in their place; the orchestra was moved out into the middle of the hall and the stage given over to the audience. Not only were the concerts a sell-out, a good proportion of which were given over to contemporary music, but the enthusiasm and response of the audience was electrifying. Such supposed sacrilege of the hall, however, was no doubt permitted because it was never a highly regarded place to hear “good” music. Now, with the impending renovations, the new hall (and it assuredly will be a rectangular shoebox) may not permit such violations of its newly established sanctity.

Maybe we’ve been so stereoed and TVed that our traditions have become rooted in the tube and transistor. Maybe, as victims of our own technology, the ultimate sonic experience is a set of headphones and the freedom to plug in and tune out. [Sharon Lee Ryder]
Arts for Living Center: Henry Street Settlement, New York.

Street smarts

Architects talk of an architecture of inclusion and accommodation, of the need for a building to fit into the surrounding environment; here is one facility that does—appropriately; a neighborhood arts center.

This building may not necessarily elicit exalted rhetoric to evoke its architectonic forms or spaces. Nor may it swiftly stir architects to controversy and diatribe. It’s simply a modest, well-designed, community-based arts center for New York City’s Henry Street Settlement, a nonprofit social service organization. Yet the Arts for Living Center by Prentice & Chan Ohihausen represents certain professional attitudes toward the role of architecture in general, and cultural centers in particular. The architecture may be modest, but it is significant.

Architecturally, the center could best be described as a “background” building. Sited in a Lower East Side neighborhood of low- and medium-rise brick apartment buildings, houses, shops, and police stations, the rather boxy structure with its dark red brick takes on the “dumb and ordinary” character of its surroundings.

At a very specific level, the building is a carefully constructed composition that takes its cues from the Henry Street Playhouse next door. In joining the center to the 1920’s quasi-Federal-style playhouse, the architects sought to respond as sensitively as possible to the scale, proportion, and massing of the older structure. First, they maintained the street line by designing a “wall” building with an amphitheater/plaza boldly carved out of its entrance plane. Since the new entrance to the center thus recedes from the street, the frontality of the older playhouse next door is still asserted, and it continues to read as the major façade. The architects also play subtle tricks with the alignment of the walls on either side of the carved-out plaza. One continues the plane of the playhouse’s façade to the west; the other is set back 5 ft to align with the supermarket to the east.

Because of the setback and the gradually stepped profile of the easternmost wall, pedestrians coming from this direction are directed toward the entrance plaza as the center itself is gradually revealed. From the other direction, the old playhouse façade arrests the attention of passersby.

In addition, the entrance doors to the new center, at the edge of the uppermost semicircular terrace, are oriented westwardly so that the entrance and plaza quickly come into the line of vision. In approaching the entrance through the amphitheater/plaza one becomes aware of the metaphorical qualities of this “stage,” replete with cantilevered pulpit facing onto “stage center.”

With regard to the center’s facing material, Prentice & Chan Ohihausen sensibly selected a dark red brick matched as closely as possible with the brick of the older playhouse. Figuring that the same mortar would appear much lighter on their new structure than on the 50-year-old playhouse, the architects chose a darker shade. Similarly, they opted for black mullions and door frames instead of the white frame and sash of the adjoining structure, to de-emphasize the difference in scale between the two buildings. While programmatic needs required larger spaces and a higher building for the Arts for Living Center, which in turn are expressed on the elevations, the architects wanted to play down the shift in scale as much as possible. This careful attention to the visual links between the older and newer structures is exhibited in other details as well. Where old and new structures join on the Grand Street elevation, the playhouse’s string coursing was echoed by the
Entrance to the Art for Living Center is through a large amphitheater (right and below) that faces Grand Street in New York's Lower East Side. The arts center adjoins the Henry Street Playhouse and is carefully designed to relate to the 1920s quasi Federal structure.
Arts for Living Center, Henry Street Settlement

change in brick pattern above a side window. An even more direct connection is evident in the extension of white coping at the parapet and roof lines of the playhouse.

On the eastern elevation facing Willett Street, the architects attempted to scale down the proportions of the center to relate to the smaller Bialystoker Synagogue (also a landmark) next door. Here a re-entrant corner and an even fenestration rhythm breaks up the massing of the building and ties it (somewhat less successfully than it might) to the 1826 fieldstone temple, formerly a rural Protestant church.

Because a 30-ft-wide open space was required to separate the rear of the center from the historic synagogue, a narrow outdoor plaza was formed. Here, a 5-ft drop in grade had previously spurred the synagogue to build a retaining wall, which they wanted to keep. (Relations with the temple, once quite close, have become distant as Henry Street’s membership changed from primarily Jewish to an assortment of other cultures and nationalities.) Thus the architects turned the wall into a curved backdrop for a seating area that in turn repeats the curve of the amphitheater and the pulpit at the front of the building. Not too long ago, all these considerations of directly tying new building to old might have been branded as fussy or spurious. A building, if it were a well-designed thing unto itself would de facto harmonize with the surrounding environment. Several hundred travertine blockbusters later, a new attitude pervades. Besides the design’s rather explicit acknowledgement of prevailing architectural thinking, it receives added importance from other factors. It is a neighborhood arts center. The building has to accommodate a number of art programs, provide a neighborhood gathering place, and (it is hoped) promote community spirit. In order to do so, it must communicate to the public a sense of accessibility as well as retain its own prominence and identifiability.

Back in the 1960s, a cultural complex wasn’t necessarily asked to be accessible—only visible. But the notion of integrating cultural activities into everyday life through small neighborhood centers gained popularity in the years of disenchantment with the sterility and monumentality of cultural palazzi. Still, neighborhood facilities are not necessarily easier to build, albeit cheaper; this one took eight
The recital hall (below) under the plaza can seat 80 in collapsible chairs on folding bleachers. Since music staff desired a live sound only hard materials—concrete block set into concrete frame, poured concrete and wall, concrete trough ceiling—predominate. The experimental theater workshop of double height (left) is kept deliberately minimal for flexibility in performance uses.
The concrete waffle and ribbed slab flooring is exposed, as shown in lobby (above) and ceiling plan (right). The architects renovated the old playhouse (below), by widening the stage, opening up the orchestra pit, installing new lights, drywalls, and rigging, painting interiors and building a new control booth with dimmer system in rear of balcony.
years for its planning, fund raising, design, and construction. And in this case the center had something of an edge over other neighborhood cultural centers: The Arts for Living Center is part of an intensive health, welfare, and social service program that dates back to 1893. While most of Henry Street Settlement's social services are sprinkled throughout a number of buildings in the Lower East Side district, cultural activities—drama, music, dance, arts, crafts, video, and film—required a new centralized space. (Meanwhile, the Settlement's administrative offices are still located, as they were at its founding, in three landmark Classical Revival houses built in 1832 on Henry Street, a block away from the center.)

Henry Street Settlement was founded by a nurse, Lillian Wald, to help eastern European immigrants, mostly Jewish, deal with the horrors of 19th Century urban life. Now, the Settlement aids a range of minorities in adjusting to the horrors of 20th-Century urban life—a group that includes blacks, Puerto Ricans, Chinese, and elderly Jews. As Henry Street's constituency has changed, so have the expectations and demands made on the Settlement. Before, the Settlement essentially served a homogeneous, closely knit group with strong familial and ethnic ties, but a desire to assimilate into New York's middle-class social and economic fabric. Today this is not so much the case. The younger community members may want to get out of the ghetto, but the creation and maintenance of separate cultural identities vis-a-vis the rest of the world has replaced the yearning to assimilate into mainstream America.

Clearly the social goals of the center must remain strangely ambivalent, predicated as they are on bringing various minorities together for cultural purposes, while allowing them room for ethnic expression and separatism. (One can see the analogy to the symbolic elements of the architectural solution—to stand apart as something unique in the neighborhood, while at the same time melting in with the physical surround.) Under these circumstances the reason for the size and placement of the amphitheater-like plaza at the building's entrance becomes vividly clear. But its inclusion called for a tight parti, with the center's interior spaces wrapped around the court and an 80-seat recital hall wedged underneath it.

To amplify interior space, the Arts for Living Center's recital hall shares its lobby with the old Henry Street Playhouse on this subterranean level. And where the space was left between the curved entrance façade and the orthogonally placed corridors on the second and third floors, the architects placed a double-height painting studio to overlook the plaza. Meanwhile, the rest of the studios were designed essentially as double- or single-height containers fitted with lights and exposed duct work to accommodate any variety of functions.

Interior finishes in both the old playhouse and the new Arts Center were kept deliberately simple: in the old playhouse because of the wood wainscoting already there, and in the center because of the art (by workshop members) that will eventually be displayed. Basically, the playhouse required a widened stage, opening up the orchestra pit, replacing canvas on wood frame walls with dry-wall, some coats of paint and new lighting, etc. Studio and backstage spaces were added at the rear. Interior finishes for the arts building posed a bit of a challenge—they had to be cheap in cost but rich in tone to reinforce the character of playhouse. Fortunately, the architects found an exceptional concrete block for interior partitions: a lightweight pumice stone block ground and polished; its aggregate surface emanates a warm and deep hue. (Too bad the block is currently too absorptive for outdoor use.) Carpeting and incandescent downlighting further dramatize interior public spaces throughout the center.

With a modest budget ($2.3 million) Prentice & Chan,
Arts for Living Center, Henry Street Settlement

Ohlhausen have been able to do a lot with this building—socially, architecturally, urbanistically. It is still too soon to tell how successfully the flexible design solution responds to all the particular demands of the program. (Even before completion several studios were converted to offices on the terrace level.) And the plaza, especially, could prove to be less in demand than its size would warrant. Unless actively used for outdoor concerts and productions, the amphitheater and pulpit may function more as gestures of the center’s intentions than as integral functioning parts of the complex. Yet perhaps the gesture itself offers enough of a raison d'être, for the center makes very important and significant overtures to its physical context, to the landmark Playhouse next door, and to the community at large. Too often architecture, concerned about optimum use of its square footage, neglects those intangible aspects that will ultimately affect its continued use. [Suzanne Stephens]

Architects tried to break down the massing of the east elevation to harmonize with the landmark Bialystoker Synagogue, one of the few remaining fieldstone churches in New York.

Data

Project: Arts for Living Center, Henry Street Settlement, New York City.
Program: building to adjoin the existing Henry Street Playhouse which seats 350 persons. The new structure would provide theater support facilities and flexible studios for music, dance, drama, television, film, photography, pottery, painting, and sculpture. An 80-seat recital hall plus exhibit areas and offices is also included.
Site: 23,500 sq ft on a busy thoroughfare in New York City's Lower East Side.
Structural system: reinforced concrete frame with waffle and ribbed slab flooring, masonry infill.
Major materials: poured concrete, brick, concrete block, vinyl asbestos tile, carpeting, built-up roofing, acoustic tile ceiling, insulation board, aluminum window frames.
Consultants: Clarese Peterson, Prentice & Chan, Ohihausen, interior designer; Hecht, Hartmann & Concessi, mechanical engineers; Robert Silman, structural engineer; Ranger Farrell & Associates, acoustical engineers; James J. Réome and Clyde L. Norheimer, theater consultants; John Baranello & Sons, general contractor.
Client: Henry Street Settlement, Bertram Beck, director; Deborah Beck, client representative.
Costs: $2,370,000 including renovation of Playhouse; $56.17 per sq ft.
Photography: Nathaniel Lieberman.
Technics: Specifications clinic

Getting the paper out

William T. Lohmann

Converting rough drafts of specifications into their publication forms is time consuming work that new data processing equipment can economically perform.

Regardless of size, type of practice, or ideological bent, all architectural offices face the problem: efficient specification processing, the means of converting a specifier’s rough draft into a form which can be reproduced in quantity. For most of us it is akin to getting a newspaper on the street, with traumatic deadlines, questionable accuracy, elusive grammar, and last minute changes.

The first draft of specifications gives a clue to its ultimate processing. A marked-up, red-lined copy of an earlier project spec must be typed by hand. No other way. The same is true for drafts assembled from manufacturers’ data, or those written “from scratch” for a job.

Editing master specification text, however, is more efficient for typing and is mandatory for computer processing. Master specifications offer quicker production, reduced errors, fast incorporation of new information, and force a degree of organization on the preparation process. Early initial editing results in closer coordination between drawings and specifications.

Where do master specifications come from? Commercially available master specification services are probably of the greatest value for most offices. MASTERSPEC, developed by the AIA, is most comprehensive and is kept current for subscribers by professional specifiers. Initial cost to a small office is about $400 for the first year, $250 annually thereafter. An office of 30 technical employees would pay approximately $350 annually after the first year. Other master specifications may be purchased without the update service. An in-house developed master can be tailored to meet those needs. Any firm which already has its own computer for accounting or engineering, however, should evaluate its use for specifications.

Call it the “fourth step.” Text editing programs are available for IBM 1130 and 360 machines and similar equipment, although storage capacity and print quality may have to be improved. Input is via punched cards or on-line keyboard. Besides the cost advantages of in-house operation (also $1-$2 per page), some programs offer automatic relational editing of text, checklist generation, error reports, billing summaries, and other advanced features.

When evaluating equipment and services for processing specifications, present requirements must be carefully considered. But the trick is to keep informed on developments one step ahead of your current needs. As technology improves and costs come down, you may be ready for the next step before you realize it.

Author: William T. Lohmann, AIA, SSI is Chief Specifier for C. F. Murphy Associates, Chicago, Illinois.
It's the law

Court denies challenge to zoning ordinance

Bernard Tomson and Norman Coplan

Although the New Jersey Supreme Court has declared invalid a zoning ordinance that made it financially impossible for low-income groups to purchase homes, the U.S. Supreme Court, by a split decision, affirmed a lower-court decision elsewhere on the ground that the challenging parties lacked standing to prosecute.

In March 1974 the Supreme Court of New Jersey ruled that under the New Jersey Constitution, communities in that state could not enforce zoning ordinances which were tailored to preserve the amenities of suburban living for the upper-middle class and which, at the same time, made it financially impossible for low income and minority families to acquire homes in that community. ("It's the law," P/A, Aug. and Sept. 1975). It was our conclusion in discussing this decision that its rationale was such that it could well be adopted by the courts of other states and that this decision might have a dramatic impact on land use regulations throughout the United States.

However, the United States Supreme Court has recently made a determination, although technical in nature, which may result in the diffusing of many of the challenges that are being made to zoning ordinances throughout the United States. This case (Warth v. Seldin, 43 U.S.L.W. 4906) involved a challenge to the zoning ordinance of the town of Penfield, N. Y. (a suburb of Rochester, N. Y.) based upon the claim that such ordinance was in violation of the United States constitution in that it resulted in the exclusion of poor and minority groups from securing low and moderate income housing in the town. The challenge had been mounted by 1) a not for profit corporation whose purpose was to foster action to alleviate the housing shortage for low and moderate income persons in that area; 2) several individual Rochester taxpayers; 3) several Rochester area residents with low or moderate incomes who were also members of minority racial or ethnic groups; and 4) a Rochester Home Builders Association, embracing a number of residential construction firms in the Rochester area. The threshold question for determination by the United States Supreme Court was whether the aforementioned parties had the appropriate status ("standing") to institute the action challenging the zoning ordinance. The District Court had dismissed the complaint on the ground that the petitioners lacked standing to prosecute the action, the United States Court of Appeals affirmed this determination, and by a split decision of five to four, the United States Supreme Court affirmed the decisions of the lower courts.

The majority of the Supreme Court held that the nonprofit corporation, whose objective it was to promote low and moderate income housing, and the individual Rochester taxpayers and residents did not have appropriate standing to challenge the ordinance in that any harm to them was caused indirectly by the exclusion of others and that, therefore, they would not be permitted to raise "the putative rights of third parties." Insofar as the Rochester Home Builders Association was concerned, the majority of the Court pointed out that this organization alleged no monetary injury to itself and had no standing to claim damages on behalf of its members, since whatever injury may have been suffered is peculiar to the individual member concerned, thus requiring individualized proof of both the fact and extent of injury and individual awards. This organization, stated the Court, was not entitled to prospective relief in the "absence of facts showing the existence of any injury to members of sufficient immediacy and ripeness to warrant judicial intervention."

In the minority opinions, the dissenting justices attributed the majority's technical conclusion, which resulted in an avoidance of the merits of the case, to its hostility to such merits. One of the dissenting opinions states:

"While the Court gives lip-service to the principle, oft-repeated in recent years, that 'standing in no way depends on the plaintiff's contention that particular conduct is illegal,' in fact the opinion, which tosses out court almost every conceivable kind of plaintiff who could be injured by the activity claimed to be unconstitutional, can be explained only by an indefensible hostility to the claim on the merits. I can appreciate the Court's reluctance to adjudicate the complex and difficult legal questions involved in determining the constitutionality of practices which assertedly limit residence in a particular municipality to those who are white and relatively well-off, and I also understand that the merits of this case could involve grave sociological and political ramifications. But courts cannot refuse to hear a case on the merits merely because they would prefer not to, and it is quite clear, when the record is viewed with dispassion, that at least three of the groups of plaintiffs have made allegations, and supported them with affidavits and documentary evidence, sufficient to survive a motion to dismiss for lack of standing."

Even if the United States Supreme Court does not modify its conclusion in future determinations, the Court's decision will not eliminate all lines of attack upon prevailing land use regulations. Legal actions which are instituted under state constitutional provisions are not necessarily subject to the same rationale as is reflected in the majority opinion of the Supreme Court. Some state courts, as in New Jersey, may find "standing" where the United States Supreme Court found none and the legality of exclusionary zoning may be determined on a state by state basis. There is much pending litigation on this subject and the challenge by low-income and minority groups to zoning regulations will undoubtedly continue.
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The Future of the City


Reviewed by William Morgan, assistant professor of architectural history, University of Louisville.

Books on the city and urbanism have recently appeared in such profusion that it is difficult even to begin to assess which are worthwhile. Peter Wolf’s The Future of the City (commissioned by the American Federation of Arts under a grant from the Ford Foundation) is one of the more significant ones. It is not a mass of statistical data culled from some governmental agency computer, nor is it one of those coffee-table productions comprising slick diagrams and wide margins. It is rather a solid and serious study of the current state of the American city, how it came about, and its possible future evolution. In fact, The Future of the City would make an excellent text for the last part of a "History of Cities" course, supplementing classics by Steen Eiler Rasmussen, Kevin Lynch, and others.

The book is divided into nine major headings—Downtown, the Street, the Urban Highway, Public Transportation, Land Use Regulation, and so forth—within each Dr. Wolf sets out the present situation, outlines the historical background, and draws upon what he feels to be the more exemplary and promising planning projects, all accompanied by excellent, if rather familiar illustrations. As the author offers only educated guesses as to the shape of cities to come, and gives a strong historical emphasis of the book, the title is somewhat misleading. The subtitle, “New Directions in Urban Planning,” brings to mind the Braziller series on “New Directions in Architecture,” and in fact the format is similar.

[continued on page 92]
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Each chapter is summarized at the end with simple statements, such as "The street is the major public space of the city and should be predominantly for pedestrians and public transit," or "Environmental concerns coupled with new concepts of land ownership rights will change the legal basis of property rights." These guideposts help the reader to focus on the major points, since if this book has any fault, it is that it supplies almost too much information. But then Dr. Wolf has attempted to make comprehensible a subject that is by definition almost unmanageable. This is a long book and had the mass of material been arranged somewhat differently, say, by placing the examples in a separate section, the lay reader might not be so easily discouraged.

It is important that The Future of the City reach beyond the architect and professional planner to the general public, for the book's great virtue lies in its explanation of the revolution that has occurred in planning in the last ten years. The Future of the City is actually a catalog of changing attitudes and practices—changes largely brought about by popular concern with the city and a general questioning of the political, social, and economic forces that have fashioned the urban environment in the past.

Just as the vocal protest movements of the 1960s have evolved into the quiet revolution of the 1970s, parallel changes have occurred in the planning of cities. Perhaps the most fundamental change has involved the break-up of America's long love affair with the automobile. The $63 billion spent on interstate highways since the 1950s has only served to scatter the coherent elements of urban cores to the suburbs like a centrifuge. Furthermore, we are dusting off certain ancient concepts, such as planning cities on human activity, rather than on geometry or utopian panaceas. Similarly, we now recognize that cities won't come back until the environment does. And just as the sacred doctrine of "Progress" that has given us cities that are built according to monetary gain at the expense of human cost is being challenged, we are undergoing the painful readjustment of accepting the fact that the right to develop land should belong to the public, not to the private developer.

While the need to reassess our attitudes towards housing, transit, zoning, land use regulation, and the environment, may perhaps be all too obvious (especially to planners), certain basic axioms need to be restated. While Dr. Wolf's book does explore the variety of possible new directions planning may take, it more importantly reminds us that there is no one set way to think about cities, and that most of our preconceived ideas—and past writings—are outmoded. It is also just as certain, as the author states, that we are in a period of adjustment, that our cities grew too fast the first time around, and that American cities of the late 1970s "may well be more contained, more humane, and far more desirable."

Despite the puzzling jacket photograph, which shows the author in a bucolic rural setting, Dr. Wolf is refreshingly optimistic about the future of cities. While not everyone will agree with him, he has provided an excellent historical survey of the post-war American city, as well as an ideal starting point for the necessary discussion on its future.
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Progressive Architecture

Products and literature

(continued on page 96)
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Circle No. 349, on Reader Service Card
Products continued from page 94

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Each ionization detector has terminal strips to which heat sensors and rate-of-rise detectors can be connected. There's a battery conversion feature, too, allowing the ionization detector to be cut out of the building's system and operated on battery power alone. If an apartment has too many nuisance alarms that disturb the whole building, its detector can be placed on battery operation, confining alarms to that apartment only.

To insure each apartment's privacy, while allowing tests of its detector, BRK has key-operated test stations for hallway location. The key not only tests for "power on", but also checks the unit's circuits and sensitivity. Hallway pull boxes are also part of the BRK system, and are connected to the MCP741 Control Panel. This advanced solid-state panel accommodates up to 8 zone modules, each capable of handling up to 60 detectors. Overall, the system can accommodate hundreds of ionization detectors, plus an almost infinite number of heat and rate-of-rise detectors and pull boxes.

Other features include remote annunciation, battery backup power and float recharge system in the control panel, UL listing of detectors and panel, easy installation, and reliable operation. For more facts write or phone BRK Electronics, Div. of Pittway Corp., 525 Rathbone Ave., Aurora, Ill. 60538. Phone: (312) 892-8721.

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New from U.S.G.
The mirrored ceiling that absorbs sound!

New VISTA SONIC® Mirrored Ceiling Panels are a dazzling breakthrough in acoustical ceilings. These lay-in panels are made of fire-retardant acoustical material that is covered with a tough, aluminized surface that reflects light with distortion-free, optical clarity. But these mirrors are shatterproof. They take minor impact without damage. And the non-static surface minimizes dust build-up, makes cleaning easy.

Imagine the dramatic decorating possibilities to merchandise your products and create an expansive atmosphere in offices, waiting rooms, restaurants and lobbies. And what a help for your security and surveillance monitoring.

VISTA SONIC Panels come in 2'x2' and 2'x4' sizes, and are available through U.S.G. Acoustical Contractors. For more information, write to us at 101 S. Wacker Drive, Chicago, Ill. 60606, Dept. PA-115.


**Products continued from page 96**

**PetriCal Super-Tee System** is said to enable 2½-, 3-, and 3½-in.-thick cement-fiber roof decks to span up to 8 ft. The subpurlin consists of a 16 gauge steel, rolled form 2¾" x 2" H section. Super-Tee may be welded direct to the joist, or the PetriCal may be nailed to wood pur-
lins. The H section weighs 1.6 lbs per lineal ft. and its textured surface is prime painted white. The Dual-Tee and Channel Reinforced Systems are available for spans up to 6 ft. Tile is used with bulb tees and can be used for spans up to 144 in. No additional subpurlin supports are necessary for the plank system. Cornell Corp. Circle 119 on reader service card

**Literature**

**Fire tests of expanded polystyrene.** Series of brochures detailing the results of full-scale, en-
closed corner fire tests under various construc-
tion conditions is now available. Each of the six-
page brochures describes the rationale for the tests conducted by Underwriters Laboratories, test objectives and procedures, test results, and a transcript of a narrative recorded by UL engi-
neers during the test. Each also contains appro-
priate temperature graphs, and full-color repro-
ductions of 35mm photos taken during each test. Expanded Polystyrene Block Molders Group. Circle 201 on reader service card

**Duct and seating.** Three brochures containing illustrations of desk and credenza collection, lounge seating, and executive seating, as well as a complete descriptive catalog are available to archi-

tects, designers, specifiers. Davis Furniture Industries, Inc. Circle 202 on reader service card

**Soft Shell Structures** is the name of a brochure which illustrates in full color some of the many uses to which air and membrane structures may be put. Made in Japan, the structures are avail-
able in the United States. Industrial Covers Divi-
sion, Holcombe Industries, Inc. Circle 203 on reader service card

**Precise Light,** six-page brochure describes luminaire that produces knife-edge property line cutoff without using energy-robbing louvers or glare shields. Light’s projection optical system was computer-designed primarily for use with energy-efficient high pressure sodium lamps. Other information in the brochure includes de-
teils on the lightweight corrosion-resistant FRP housing, mounting arrangements, plus installa-
tion and maintenance information. Request CLY Precise Light brochure. Crouse-hinds Company. Circle 204 on reader service card

**Compartments and cubicles.** Color brochure illustrates and describes laminated plastic toilet compartment, shower dividers, and vanity cen-
ters, gives dimension drawings and specification-
tions. Request catalog No. TP-7507. Complete line of toilet and bath accessories are shown in color in washroom equipment catalog. Request catalog No. P 7506. Both are available to archi-
tects and designers from Bobrick Washroom Equipment, Inc. Circle 205 on reader service card

**Sound-control wall systems** are described in full-color guide for architects and interior de-
signers. Vicraacoustic wall units come in five dif-
ferent constructions, with wide selection of fin-
ishes, over 85 patterns of vinyl wall coverings, and many colors. Request *The Quiet Wall,* L.E. Carpenter and Company. Circle 206 on reader service card

(continued on page 104)

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**Solid Hardwood Plank Paneling...**

**what plywood sheet paneling tries to imitate!**

Back in the 'good ol' days' all paneling was plank paneling. Then, American ingenuity took over. Plywood sheet paneling became the accepted imitation. But, Townsend wants you to know that the good ol' ways are still available: Someone still makes it like it was meant to be made. Real hardwood planks shaped and finished like fine furniture. Send for Townsend's Designer Sample Kit and see for yourself.

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100 Progressive Architecture 11:75
New Maytag-equipped home style Laundry. It can cut your costs, while giving tenants homelike comfort and convenience.

Everything's grouped in a functional cluster, like in a home laundry room.

Save as much as 40% to 50% on gas with the new Maytag D21 Dryer, compared to regular 30-lb. dryers.

Flexibility is the keynote. Washers and dryers can be arranged in a variety of configurations to fit your needs.

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In small space, with a small investment, the exclusive Maytag-equipped Home Style Laundry lets you provide tenants with a totally unique laundry with homelike atmosphere and step-saving convenience, plus equipment for optimum care of all fabrics.

And look at the possible advantages for you compared to traditional laundry rooms: Lets you use areas never before practical. Smaller space needed. Smaller initial investment. Lower operating cost. More profit per square foot. All-Maytag equipment for dependability and tenant satisfaction.

Mail card now for free facts. No postage needed.


- It's actually two single-load dryers stacked one on top of the other. Each is functionally independent.
- It can save you 40% to 50% on gas compared to regular 30-lb. dryers. Or 20% to 30% compared to 30-lb. dryers with electric ignition, factory-built heat reclaimers, and lowered Btu input. Electric model uses half as much electricity as 30-lb. electric dryers.
- Choice of coin or exclusive ticket-operated models which use an electronic ticket, helping avoid coin-box problems and improving security.
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Barry John Baker and Sylvain Bournhonesque have been appointed associates of Esherick Homsey Dodge & Davis, San Francisco.

Randall J. Gordon is a new associate of Collins & Rimer, Architects Inc., Cleveland, Ohio.

Howard A. Melton has been promoted to senior vice president, head of the general practice division of Heery & Heery, Architects and Engineers, Atlanta, Ga.

Thomas S. Rooney has been named president of Connell/Metcalf & Eddy, Coral Gables, Fla.

James E. Klein has joined Kenneth Balk & Associates, Inc., Architects-Engineers-Planners, St. Louis, Mo., as project manager, project management division.

Alan Rosen, AIA has been appointed director of the Los Angeles regional office of Welton Becket & Associates. Gene Taillon and Patten W. Brooks have been made vice presidents in the firm's Houston office.

New addresses
Geddes Brecher Qualls Cunningham, Architects, 12 Nassau St. Princeton, N.J. 08540.


Haas: Greenfield: Associates, 2438 W. Third St., Los Angeles, Calif.

New firms
James G. Peacock, AIA and Thomas C. Steen, AIA have formed Peacock & Steen Architects Planners, 1600 First National Bank Bldg., Peoria, Ill. 61602.

W. Gray Smith, AIA, AIP has opened a practice for architecture, planning and urban programming at Juniper and Locust Sts., Center City, Philadelphia.

Albert B. Hall, Architect, 7007 Preston Rd., Dallas, Tex. 75205.


Roger Taunton-Rigby, AIA has established an architectural/planning firm at Farrar Rd., Lincoln, Mass. 01773.


Organizational changes
Loebl Schlossman Dart & Hackl is the new name for Loebl Schlossman Bennett & Dart, Chicago.

Miller, Wihry & Lee, Inc., landscape architects, engineers and planners, has opened an office at 1511 K St. N.W., Washington, D.C. with Edward B. Ballard as manager.

Broome, Oringdulph, O'Toole, Rudolf & Associates, Architects and Planners is the new name for Broome, Selig, Oringdulph & Partners, Portland, Oregon.

Heery & Heery, Atlanta-based architects and engineers, has formed a division specializing in educational and institutional projects. Lauren H. Goldsmith will head the division.

Bohlen, Meyer, Gibson & Associates, Inc., Architects & Planners of Indianapolis, has added an interior design division headed by Barbara Eden.
**Another introductory offer to new members of the ARCHITECTS' BOOK CLUB**

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11:75 Progressive Architecture 111
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Architect/Hospital Planner: For long established Midwest A&E firm. Must have minimum of 5 years experience in planning of hospitals and health related facilities. Excellent compensation and fringe benefits. Reply with complete resume to Box 1361-873, Progressive Architecture. An equal opportunity/affirmative action employer.

Architectural Designer or Interior Designer: 70 man midwest based firm seeks experienced (5 years) designers. Registration preferred. Excellent opportunity to work on variety of projects; total design responsibility and capability desired. Send 2/3 samples of work and resume to: Bill Gustafson, Lorenz Williams Lively Likens and Partners, 2600 Winters Bank Building, Dayton, OH 45402.

Dean, College Of Architecture: The University of Florida announces the opportunity for the position of Dean which will be filled by July 1, 1976. Programs within the College include: Architecture, Building Construction, Landscape Architecture, Interior Design, and Urban and Regional Planning. Qualifications include: (a) Broad background of professional experience in architecture, planning, and construction (b) Masters degree or equivalent (c) Administrative, management, and public relations experience (d) Teaching experience in an accredited professional program. Interested candidates are to send their resume and references by January 1, 1976 or write for more information to: Professor Bill Eppes, Chairman, Search Committee, College of Architecture, 119-C AFA Complex, University of Florida, Gainesville, Florida 32611. The University of Florida is an Equal Opportunity—Affirmative Action Employer.

Faculty Positions: School of Architecture at Oklahoma State University has two faculty positions open. Academic rank and salary will depend upon the candidate's qualifications. 1. Environmental Control Program; teaching and research in areas of low- and alternate-energy application, mechanical engineering, lighting and acoustics. Master's degree required with either or both undergraduate and graduate degrees in Architecture or Architectural Engineering. Teaching and practical experience desirable. 2. Design/Building Systems; teaching and research in Design, Construction Materials and Systems, Construction Documents. Master's degree and several years of practical experience required; teaching experience desirable. Oklahoma State University is an Equal Opportunity/Affirmative Action employer. Minorities and women are urged to apply.

Senior Architectural Designer: 100+ man architectural office in Houston with substantial overseas workload seeking

[continued on page 116]
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Architect: A.I.A., NCARB, 18 years experience, strong in administration and project coordination. Seeks affiliation or position with architect, engineer, or developer. Reply to Box #1361-813, Progressive Architecture.

Architect: BAE., Registered in Lebanon, 9 years experience in the Middle East, 4 in U. S. Fluent in Arabic and English. Seeks position of scope and responsibility with firm doing work in Mideast. Prefer position where managerial skills, experience and contacts there would be of benefit. Write (Box 1361-880), Progressive Architecture.

Architect: M. Architect, 29, Turkish, resident in England, nine years experience in Europe and continental, diversified projects. Interested in creative position with design oriented firm. West Coast preferred. Resume, transcript and references on request. Please reply to Box No 1361-879. Progressive Architecture.

Architect: NCARB, registered in Connecticut. 12 years of diversified experience and responsibility in design, production and coordination for several multi-million dollar projects, including own practice. Seeks challenging position with architects or engineers. Will relocate. Resume on request. Reply Box #1361-881, Progressive Architecture.


Architect: 45, U.S. citizen. Over 20 years international experience in all phases. Strong in design. Worked in England, Germany, Middle East, Africa and U.S.A. Seeks responsible position domestic or overseas. [continued on page 118]
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Facility Planner/Programmer: B.Arch., M.B.A., multiple registrations, NCARB pending. 13 years international experience: client relations, development feasibility, pre-design analysis, programming, fast-track project management, large-scale interiors, construction supervision, specifications. Seeks part-time or permanent work at $30,000 with architects, engineers, developers, corporations. N.Y.C. area, will relocate for opportunity. Tel: 516-665-3224.

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   Outlines the duties, requirements and interests of the construction inspector. Describes the "whys" as well as the "how-tos" involved in observation of construction quality. Including handy checklists to work from, the book shows you exactly what should be reviewed and inspected.
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5. **Architectural Graphics**
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6. **Architectural Rendering The Techniques of Contemporary Presentation**
   By Albert O. Halse, 326 pp., illus., 2nd edition, 1972, $24.50
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