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## AT&T PERFORMING ARTS CENTER, PART I

# DALLAS' NEW THEATRE MACHINE

The Dee and Charles Wyly Theatre combines innovative design with total flexibility

By: David Barbour

It's a cliché to say that they do things bigger in Texas, but, when trying to describe the new AT&T Performing Arts Center, the cliché will have to do. At this recession-plagued moment, the breadth of the project astonishes: At a cost of \$354 million, a vast new outdoor plaza has been created in downtown Dallas, making room for the Margot and Bill Winspear Opera House (designed for opera, ballet, and touring Broadway productions), the Dee and Charles Wyly Theatre (home to Dallas Theatre Center); the Annette Strauss Artist Square (an open-air theatre for concerts), City Performance Hall (a production space for the city's smaller performing arts organizations); and Elaine D. and Charles A. Sammons Park (a 10-acre public space). A press release calls it "the most significant new performing arts complex to be built since New York City's Lincoln Center," and, for once,

the self-promotion seems justified.

A major attempt at reorienting the city's place on the map of American culture, the project also represents an expansion of the Dallas Arts District, a neighborhood that, among other things, is home to the Dallas Museum of Art, the Morton H. Meyerson Symphony Center, and the Booker T. Washington High School for the Performing Arts. It's also an enormous gesture of civic pride; to get a sense of the community's support for the project, consider this: A total of 133 individual donors each gave more than \$1 million to make it happen. Over 90% of the project is privately funded.

Like most grand-scale projects of this nature, it has been long a-borning. Richard Pilbrow, founder of Theatre Projects Consultants, took his first meeting on it in 1984. For various reasons—the size of the challenge, the ups and downs of the local

economy—the project was on and off several times. Ideas were proposed; participants came and went. It wasn't until early in this century that the players were in place and designs were approved.

In the following pages, we will look at the Wyly Theatre and the Winspear Opera House, the first completed pieces of the project. They are very different in their scales and ambitions, but are linked in one crucial way: Each provides a highly workable theatre space, designed according to classic principles, sheathed in buildings of considerable intellectual complexity. Even here, however, there are differences. Enter the Winspear and you encounter a classic horseshoe opera house, a design that is familiar around the world. The Wyly Theatre, as we will see, is modeled on one of the great modern English playhouses, but it also pushes the concept of the flexible theatre to its limit.



Photo credit: Tim Hursley

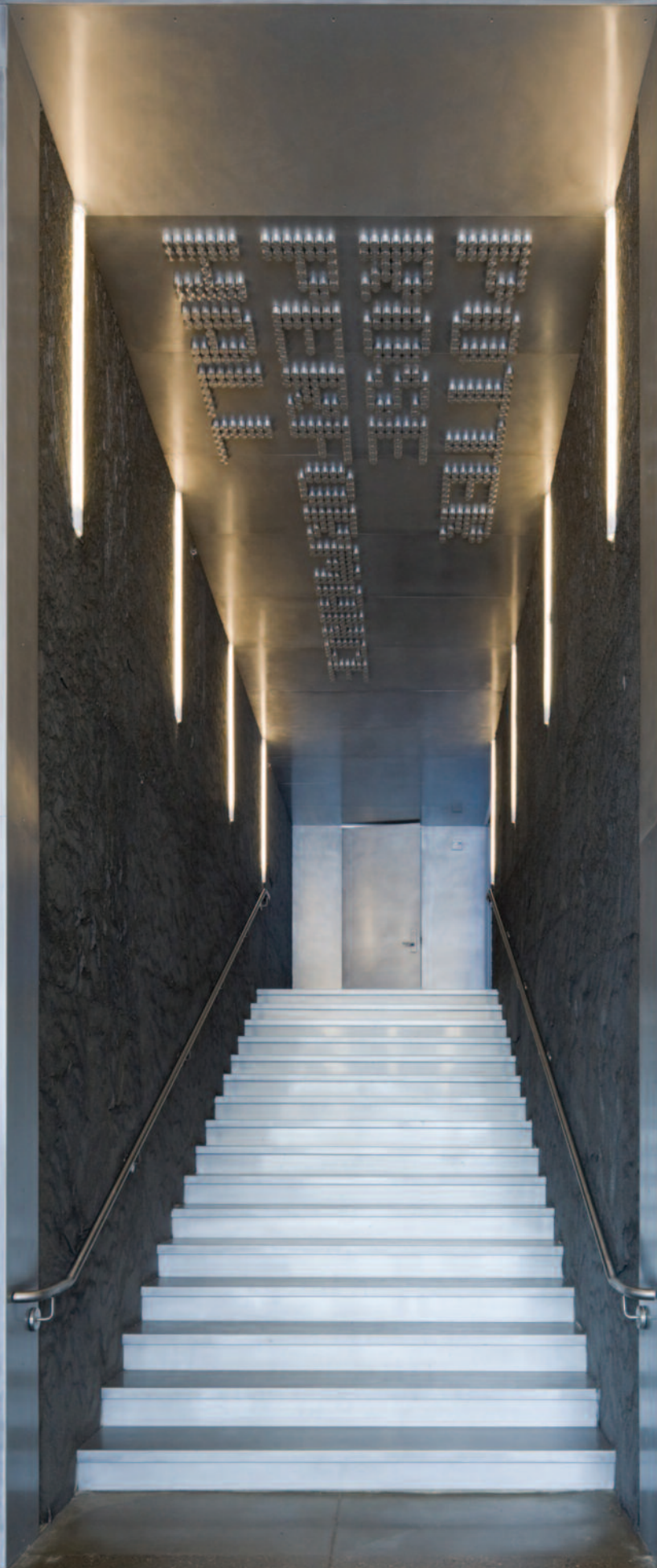


Photo credit: Iwan Baan





### The vertical theatre

Viewed from the outside, The Dee and Charles Wyly Theatre looks like a lot of things, but a theatre is not necessarily one of them. It is a several-story cube, with windows on the first two levels; above that, it is clad in a surface of corrugated aluminum—nine miles of it—broken up only by large windows in three places. The name of the theatre is seen in illuminated letters running vertically down the front of the building. Adding to one's intrigue is the realization that the auditorium is surrounded by glass.

The building was begun by the firm OMA, with Rem Koolhaas as the principal, in association with Houston-based Kendall/Heaton Associates. While in progress, Joshua Prince-Ramus, the partner in charge, left OMA, and started his own firm, Rex; together, the two firms saw to

completion their plan to “overturn conventional theatre design.”

In doing so, they were responding to the needs of the client. For most of its life, Dallas Theatre Center was housed in the Kalita Humphreys Theatre, a Frank Lloyd Wright project that proved to be more striking than useful. Later, the company added a second space that lacked many amenities but helped to set the agenda for what was to come. “DTC was housed in the Arts District Theatre, a dilapidated metal shed that freed its resident companies from the limitations imposed by fixed stage configuration and the need to avoid harming expensive interior finishes,” says a statement by the architects.

“The directors who worked there constantly challenged the traditional conventions of theatre and often reconfigured the form of the stage to fit their artistic visions,” adds the

architects’ statement. “As a result, the Arts District Theatre was renowned as the most flexible theatre in America.” As always with such spaces, they add, there was a downside: “The costs of constantly reconfiguring its stage, however, became a financial burden and eventually DTC permanently fixed its stage into a ‘thrust-cenium.’” Nevertheless, at a press event for the Wyly, Josh Prince-Ramus noted that a key goal was to preserve the extreme flexibility of the Arts District Theatre in the Wyly.

Seeking to combine a sleek appearance with efficient operation and to provide maximum flexibility for the theatre, the architects hit on the idea of stacking spaces on 12 levels, thus arranging the necessary support rooms above and below the auditorium. (The building’s total area is 80,300 sq. ft.) The lobby is located on





Opposite: The view from the stage of the Potter Rose Performance Hall, showing the seating towers and the catwalks. This page, top: The stage in its thrust configuration. This page, bottom: A side view, showing the surrounding windows.

the ground floor; attendees step up a floor, through narrow vomitoria, to enter the theatre. The “backstage” area, including dressing rooms, etc., is located beneath the auditorium; the mechanical room is a floor below that. The Sky Studio, a rehearsal room/black-box space/reception area, can be found above the auditorium, roughly parallel with the fly tower. The administrative offices are located directly above the Sky Studio; adjoining the offices are a conference room and the costume shop. Topping it off are the rooftop terrace, education center, and outdoor terrace; the latter is covered in Astroturf and provides an expansive view of the city.

Rem Koolhaas, speaking at the press event, said his goal was “to devise architecture with the same

versatility as an industrial venue. I hate the traditional theatre profile of the door, auditorium, back of house, and front of house. Instead, we chose to pile the front-of-house and back-of-house functions on top of and below the auditorium, making for a smaller footprint overall.” He added that the building’s vertical concept was developed in contradistinction to the Winspear Opera House, which has a more horizontal profile.

The interior of the building is designed so that many of the rooms are visible to one another. “Transparency was very important,” says Benton Delinger, the project manager for Theatre Projects. “You’re always aware of other activities in the building.” In addition, when one stands on the Bess and Ted Enloe

Terrace—the outdoor area fitted with Astroturf—one can see into the McGhee Educational Center. Inside the educational center, one can see into the costume shop. In another example of the transparency, the wall between the patrons lounge and the Sky Studio is retractable, allowing the room to be used for larger performances and/or events. In addition, the elevators are found on the building’s exterior, allowing for views of Dallas as one travels up and down.

There are many unusual and graceful touches throughout the building. The walls in the McGhee Educational Center consist entirely of whiteboard, allowing users to express their ideas in magic marker. The costume shop features both fluorescent and incandescent lighting,



allowing the costume staff to work comfortably and still get a sense of what the clothes will look like under stage lighting. (Tillotson Design Associates, of New York, provided the building's architectural lighting.) Wherever possible, green materials were used; for example, the polyboard floors in the Sky Studio are made of recycled plastics.

John Coyne, of Theatre Projects, who worked on the design of the theatre with Brian Hall and John Runia, also of Theatre Projects, notes that it was a challenge to fit the necessary pieces of the company—the auditorium and support spaces—into the building's unique configuration: "There were all sorts of circulation ideas. At one point, the theatre was on top, and, another time, the lobby was on top of the theatre and you would take an escalator to exit. We had to be careful with the vertical circulation. We still wanted to be able to get to at least three corners of the stage. We had to think through the circulation, as well as how to get the

actors into the auditorium when they want to work around the audience. But the architects wanted everything exposed. So, for example, there's a stairway on the left side that goes straight down to the dressing rooms." Delinger notes that the final arrangement of spaces around the theatre is highly functional. "With the dressing rooms under the stage, they have some of the best access to the stage for their typical size of cast. They also have two large chorus rooms two floors down, and on the stage level, bathrooms; also, the props kitchen area, just offstage, can be used as an offstage dressing room."

But it is the auditorium itself, with its many manifestations, that is the main event.

## The ultra-flexible theatre

Several different ideas contributed to the extreme level of flexibility inside the theatre. First, there was the company's experience with the Dallas Arts District Theatre, which opened during the tenure of Adrian Hall, the

former artistic director. Working with Richard Hamburger, his successor, Theatre Projects identified the Cottesloe Theatre, the famed flexible space at London's National Theatre, as the right model.

Coyne has designed several productions for Dallas Theatre Center: "I had worked in the shed [Dallas Arts District Theatre] and I knew what they liked about it. I had worked in the Kalita Humphreys Theatre, and I knew what they didn't like about that." He adds, "The shed was a big, open room, and they could set it up in all sorts of ways. As time went on, they were spending more and more money to change it over; they wanted to limit the changeover to less than an eight-hour call. The shed was 100' by 100', which is almost the footprint in the new theatre. The DNA of the shed is in the new theatre."

Delinger adds, "It really came down to the fact that they wanted to do a thrust, an end stage, and, if possible, an arena, if they wished." And the architects were predisposed



towards flexibility. (Koolhaas has noted that he is claustrophobic and wanted to avoid the sense of imprisonment that he feels inside a theatre, while preserving the space's intimacy.) Delinger recalls, "Josh Prince-Ramus said, 'What if we did an open room, a beautiful glass box, in which you can do anything?' The client said, 'Why not?' Then it became our job—the technical issues, keeping it rational to the budget, and keeping the square footage from getting too big."

The theatre, which seats as many as 575, is a machine made up of many moving parts. In addition to the orchestra level, there is seating on two additional tiers, or towers, which wrap around three sides of the auditorium. These can fly out, as necessary, along with the proscenium wall, to create a flat floor, allowing for rapid reconfiguration of the auditorium. On three sides, the auditorium also features an acoustic-quality glass curtain wall system with built-in shade controls. Given these pieces, any configuration is possible. Or, if desired, the seats can be removed and a few of the glass walls opened to create a party space. As for the floor seating, Coyne says, "We've installed seating wagons that store under the auditorium, in a sub-basement level."

"It's the first fully automated regional theatre in terms of the power flying on stage," says Michael Nishball, of Theatre Projects. Many pieces involved are custom-designed, he adds. "We have a flying piece called the crash wall, a truss-framed flat that creates a big grid of a wall upstage; it can be used as a backdrop or a lighting position. There's also a 1,5000lb-capacity custom hoist for the entire proscenium, which flies out."

The stage equipment contractor for the entire project was SECOA, of Champlin, Minnesota. The rigging system, furnished by Vortek, a division of Daktronics, consists of 49



Opposite: The lobby; at right is one of the vomitoria used to enter the theatre; see photo on page 39 for a closer view. Above: The Sky Studio.

hoists, including 43 of the company's Pro Series units and two custom hoists for the house curtain and crash wall. The seating tower hoists make use of a Daktronics product generally used for scoreboards. The four hoists for the seating towers are also custom-made; each is capable of moving a tower 6' horizontally and 28' vertically, with a lifting capacity of 60,000lbs. (Nishball says that the two electronically synchronized hoists for the rear seating tower can handle 119,000lbs.)

The lifts that allow the reconfiguration of the stage were furnished by Serapid. They include more than 50 LinkLift telescoping columns to support a proscenium/orchestra pit/wagon storage lift, a center seating wagon lift, six seat-configuration lifts which contain a turntable axis, and two seating riser lifts. The proscenium lift platform is 216 sq. ft. with a travel distance of 36'. The center seating wagon lift platform is 432 sq. ft., with a travel distance of 5'. The seat configuration lift platforms are 81 sq. ft. each, with 8' and 4' of travel. The turntable axis rotates 180°, and the seating riser lifts are 27 sq. ft. each, with 3' of travel. "The lift system is wirelessly controlled for increased access and monitoring of the machinery," says Nishball.

In addition, he says, "The east seating tower features a telescoping bridging system that brings the

audience from the elevators and connects them to the seating at two levels. It can retract from an 11' span into a 5' cassette and hinge up to store vertically, depending on if they're in an end-stage or thrust configuration. It was provided by a company named Innovative Industries; it's designed to be used with emergency vehicles and we adapted it to our needs."

Overhead is what Nishball calls "a grid of lighting catwalks for the forestage. Some of them are removable; you can slide them sideways, allowing room to fly scenery above them." And, he says, "Because the glass walls of the audience/stage chamber are on three sides, there was no place to put audio, lighting circuits, or convenience outlets. To deal with this, we created a service trough around the stage, with technical vaults bringing all the necessary services up from below stage level." The room is fitted with lighting positions in various locations, including along the edge of each tier of the seating towers.

Renz van Luxemburg, of the Dutch firm DHV (formerly Dorsserblesgraaf), notes that the design of the theatre posed many acoustical challenges. "We had to look at the chamber and the fly tower as one big space," he says. "We also had to deal with the glass walls and the use of concrete, with their hard, strong reflections." He

also took into account the theatre's downtown location, with traffic nearby and planes flying overhead to Love Field airport. "We carried out measurements to get a good grip on what the noise loads were," he says.

His original proposal for the theatre's transparent walls called for the use of glass that was several inches in thickness. However, he says, "You can imagine the weight of such a window; it was decided that some of the windows were to be movable, so we looked at more possibilities. We did a lot of research in Holland and came back to the idea of a double window, laminated on both sides, with an air space in between, and with each of the double layers connected by an acoustic foil. We used this arrangement all around the room, although some spots needed extra attention—for example, near the loading door and the elevators."

Inside the auditorium, he says, "We control the acoustics with reflectors integrated into the technical grid above the audience. These are more or less fixed, although they can angle in a bit. We also treated it with acoustical insulation in a dead space above the reflectors, and with acoustical panels in the fly tower. All the wall surfaces and the area above the glass have been treated with these panels, which are made of Linacoustic." This approach proved suitable because, van Luxemburg notes, "the reverberation of the chamber doesn't change with the different configurations." Also designed into the building is an isolation area, separating the audience's portion of the room from the sky studio above it.

## Outfitting the theatre

The theatre is outfitted with a Philips Strand Vision.net networking system. "It's a big, complex system," says Delinger, adding that Strand "gave so much support to the project. Vision.net aims to do a lot of what we do in other theatres with AMX control

systems, and it's working well." Among other things, it controls the automated window shades, house lighting system, and wireless Ethernet in the room. "It's a comprehensive system that controls every light in the building," including the offices and shops, adds Peter Rogers, of Strand. "Some of the controls are occupancy sensor-based; in other cases, we use Vision.net to program button stations. It was a great collaborative project with Theatre Projects; it made us redesign the Vision.net software, making it a better product."

Strand also supplied C21 dimmers, A21 architectural dimmers, and Contact relay panels. "The architectural system provides a great deal of load and power management, turning lights off or dimming them to reduce energy demands," adds Rogers. "For instance, astronomical time clocks make sure that lights are turned on when it's dark outside and turned off where then is ambient daylight. The Wyly is one of the first theatres to have complete building control totally integrated into a flexible system that can save energy and meet the control needs demanded by the space." Strand Lighting, of Dallas, acted as the system integrator for the lighting.

The lighting package includes ETC Source Fours, Philips Strand Fresnels, Altman cyc and strip lights, two Lycian Super Arc followspots, four Philips Vari\*Lite VL1000s, and 18 Morpheus S-Fader scrollers. Lighting control is via a Strand Light Palette VL, the company's most advanced moving light console, with an optional touch screen attached. Also available is a smaller Light Palette console, which can be used elsewhere in the building, including the Sky Studio.

The sound package, which was specified by Engineering Harmonics, of Toronto, and supplied by Clair Brothers, of Dallas, includes seven JBL AM6200/95s for the LCR mid-high array, two JBL AL6115s for LCR subs, 21 JBL Control 25s for

underbalcony fill, and 21 JBL Control 23s for underbalcony effects. Additional gear includes two JBL AM6212/00s, two JBL AL6125 subs, eight Tannoy i6 units for front fill, and five Meyer Sound speakers for thrust fill. There are two Yamaha MC7L consoles—one to mix sound and one to run an SFX sound effects playback system. For communications, there's a Clear-Com MS-440 with both Clear-Com and Telex belt packs. The Sky Studio also features a Soundcraft Spirit FX 16 console, two JBL EON 15 G2 speakers, two Shure SM58 wireless mics, and a Listen Technologies infrared assisted hearing system.

Other key contributors included Transsolar Energietechnik (mechanical, electrical, plumbing, and fire protection), Cosentini Associates MEP/FP engineer of record), Magnusson Klemencic Associates (structural engineer of record) and McCarthy Construction (construction management).

## Using the theatre

The Wyly opened at the end of October, with a production of *A Midsummer Night's Dream* directed by Kevin Moriarty, the theatre's current artistic director], and with a set design by Beowulf Boritt. "It was done in thrust," says Delinger. "There was scenery on the balcony fronts—basically, they were chalkboards—and the audience could draw on them. For the wedding scene, pins were pulled, and the chalkboards turned into Keith Haring-style paintings. The rear wall flew up and there was a Haring-style drop. Then all the scenery flew up and they had a party on stage. It used the building brilliantly."

All of which must be gratifying, for the project required unusually creative thinking. "It didn't allow us to be complacent," says Delinger. "Every time you get pushed to the edge, you definitely educate yourself to be better. This project allowed us to redefine what we thought." 🌿