

## Rafael Viñoly's arresting and controversial design for the new **KIMMEL CENTER** offers the Philadelphia Orchestra a concert hall under glass

By Suzanne Stephens

**T**he deep irony of the Kimmel Center's first-night opening in Philadelphia last December 14 was stunningly palpable. Sir Elton John was hunkered over a piano singing his heavily amplified heart out on the stage of Verizon Hall, the main auditorium for the new \$265 million center. The whole reason everyone was there was because the Philadelphia Orchestra had carried on so long about the need for an acoustically reverberant space. The orchestra's old home, the much-revered Academy of Music, built in 1857 in an Italianate mode by Neapolitan LeBrun and Gustave Runge, was deemed too "dry"—its reverberation time too short. Out of this discontent eventually sprang the monumental, 429,085-gross-square-foot Kimmel Center, a 150-foot-high, glass-barrel-vaulted structure encompassing two auditoriums. Designed by the New York-based architect Rafael Viñoly, FAIA, the structure houses six performing arts companies, including the Philadelphia Orchestra, and straddles a full city block, just down Broad Street (now called Avenue of the Arts) from the old Academy.

As striking as Elton John's array of audio equipment, replete with a ganglia of electrical cords and dangling video screens, were the nickelodeon-style light stanchions and trusslike appendages. True, the razzle-dazzle was gone by the second opening night, when the Philadelphia Orchestra was back in charge of the sinuous, mahogany-clad hall. But the memory lingers.

Clearly, those planning the big first nighter did not want the center to seem stuffy. The mise-en-scène provides a telling clue about Philadelphia's own quest for a certain image, which has in turn shaped the architecture of this civic center. The city's legacy of Quakerism, Sunday blue laws, and suburban Main Line helped mold its stodgy reputation. In 1958, when sociologist Digby Baltzell wrote *Philadelphia Gentlemen: The Making of a National Upper Class*, Eugene Ormandy was reigning conductor of the Philadelphia Orchestra. Of an afternoon, tweed-suited and mink-stoled matrons could stroll from the Nan Duskin store off Rittenhouse Square to the Academy to hear him create that "Philadelphia Sound." Ormandy had overcome the dry acoustics of the sumptuous La Scala-esque auditorium by bringing out a plushness in his string section once described as "the sound of pearls dropping on brown velvet."

Already in 1958 modernity was changing the city's image. For one thing, another "Philadelphia Sound" was being generated out of

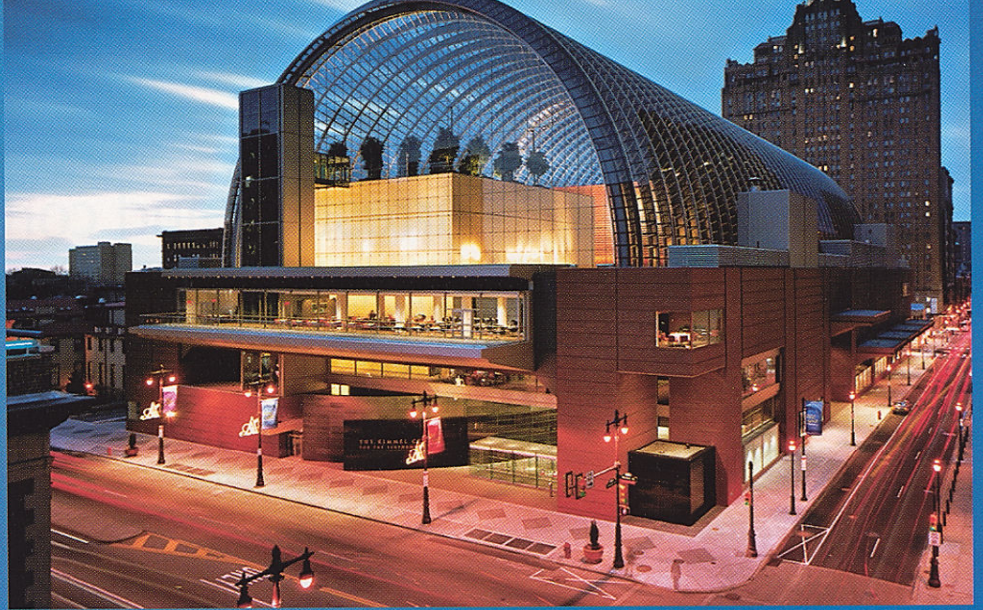


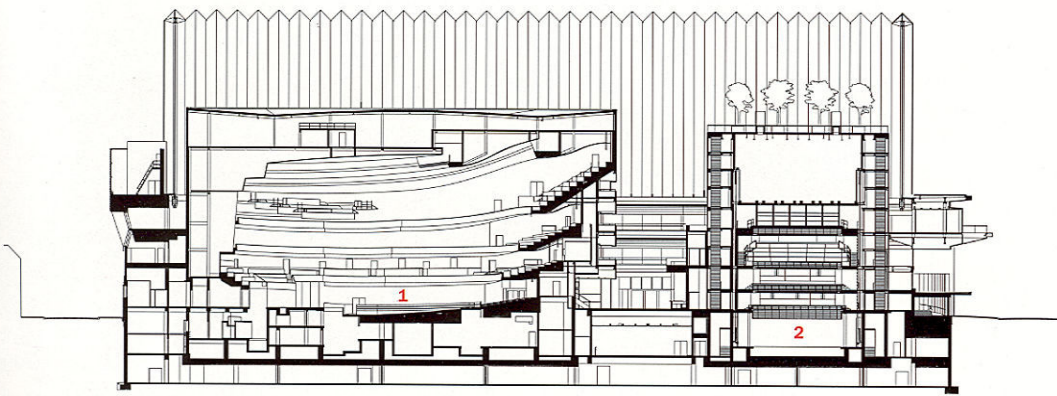
"Sou'Philly," heralded by Dick Clark's *American Bandstand* TV show, where duck-tailed teenagers rocked and rolled to pop culture stars Bobby Rydell (né Ridarelli), Frankie Avalon, and Fabian. Architecturally, a new modern identity was being forged, as well. A few blocks away from the Academy, near City Hall, urban planner Edmund Bacon was creating Penn Center, which, along with the renewal of Society Hill, would lure suburbanites back

**Project:** Kimmel Center for the Performing Arts, Philadelphia  
**Owner:** Regional Performing Arts Center  
**Architect:** Rafael Viñoly Architects—Rafael Viñoly, FAIA, principal and lead designer; Jay Bargmann, AIA, project director; Sandy McKee, AIA, project manager  
**Acoustic designer:** Russell Johnson of Artec Consultants

**Sound and Communication Systems designer:** Thomas G. Clark of Artec Consultants  
**Theater consultants:** Theater Projects Consultants—Richard Pilbrow and David I. Taylor  
**Structural engineers:** Dewhurst Macfarlane with Goldreich Engineering  
**M/E/P consultants:** Arup

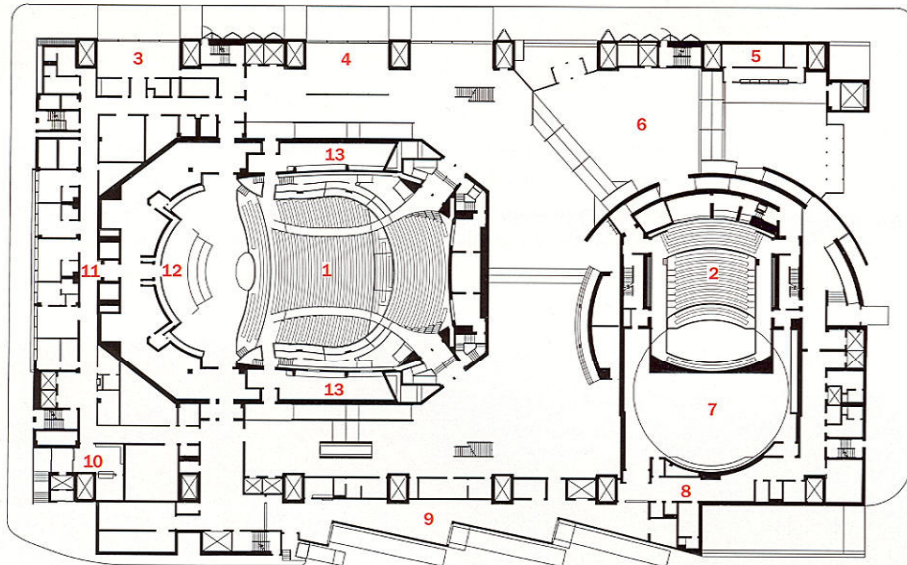
When twilight falls, the Kimmel Center comes to life on Philadelphia's Broad Street, now Avenue of the Arts (right and below). The center occupies a city block south of City Hall and north of the University of the Arts, which is in a 202-year-old Neoclassical building designed by John Haviland, with additions by William Strickland and a rear building by Frank Furness.





LONGITUDINAL SECTION

1. Concert hall
2. Recital theater
3. Greenroom
4. Gift shop
5. Box office
6. Lobby
7. Revolving stage
8. Recital theater support
9. Loading dock
10. Stage door
11. Concert hall support
12. Stage
13. Reverb chamber



FLOOR PLAN

The Kimmel Center has a reinforced concrete foundation, rubber pads to insulate against vibration, then a concrete basement, and a steel-frame structure above. Vertical cantilevered box columns support the general building and provide space for HVAC.

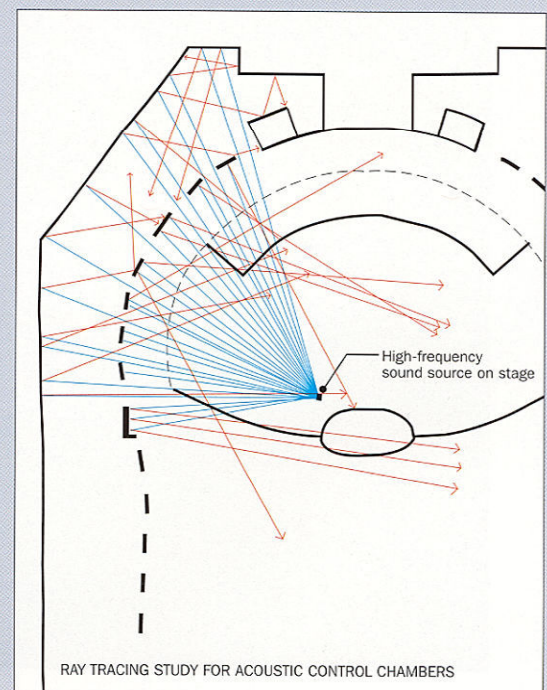
## Now showing: Forty years' worth of acoustical innovations

The acoustical innovations that have debuted over the past four decades in the most sophisticated concert halls and auditoriums were inspired by economics. "In the 1950s, it became evident to auditorium owners that they had to have all kinds of entertainment in order to make money," says Russell Johnson, whose firm, Artec Consultants, designed the acoustics for both the concert hall and the recital theater at the Kimmel Center. "Around 1960, I pioneered the concept that in order to do the very best for each kind of performance that goes on a stage, you have to be able to adjust the acoustics of the room to match the event's acoustical requirements. That's the way we now approach concert hall design."

Most of the ideas Johnson began developing back then are built into Verizon Hall. The most prominent is the use of hinged panels to allow the movement of sound between the audience chamber, where the stage and seating are

located, and acoustics control chambers located around the audience chamber's perimeter. These allow the volume of the hall, and therefore its reverberance, to be adjusted. To make the room more reverberant, the doors are opened to allow the sound energy to bounce around the control chamber and mix with the sound from the stage. When the doors are opened more fully, more reverberance results. A second system in use is an acoustical canopy, which hangs over the stage. It has three sections that can be raised or lowered independent of each other to further adjust the hall's acoustical environment. The third element is a series of acoustic-control curtains—lengths of fabric that can be lowered in front of the walls in order to change reverberation time. After Verizon has been in use for some time, Artec will recommend acoustical settings for each type of event typically held in the hall.

Charles Linn, AIA



RAY TRACING STUDY FOR ACOUSTIC CONTROL CHAMBERS

The quartered-figured mahogany (from sustained growth forests) was chosen, according to Architectural Woodworking Industries, to obtain a grain that would have a glossiness under low light. The walls of the 2,543-seat auditorium are faced with ½-inch-thick African mahogany veneer with a fire-rated core. The top-most ceiling is solid plaster, 3 inches thick. Applied to that are ¾-inch-thick, fire-rated mahogany panels.



Pilbrow came up with a scheme where a revolving circular stage, surrounded by audience seats, rotates to the back, allowing a proscenium stage with a fly tower to take its place. The seating in front of the stage can be dropped to the basement via an elevator, with a floor sliding out for dance and theater performances, or parties.

#### Now the hard part

As a performing arts center, the Kimmel has strong selling points. Its striking use of technology with arches of folded-plate Vierendeel trusses and glass panels is captivating; the insertion of delicate, cable-supported glass curtain walls at both ends is impressive. The roof garden on top of the Perelman Theater, where trees in planters are shielded by the guarantee glass vault, creates a play in scale that is awe-inspiring. But the Kimmel Center's exterior is another story. Looking at the building from the pedestrian's standpoint is oppressive. Even if the scale of buildings at this end of the avenue is variegated, Broad still has a pedestrian feel to it. Yet where the barrel vault meets the base, the klunkiness shocks. We are back to the Modernist dilemma: The massing and materials of the steel-framed lower section, especially the cheap-looking brick cladding, are drab and perfunctory; a sense of detail nonexistent. You go from a transparent version of Boullée's Bibliothèque Nationale on the top to Wal-Mart on the bottom.

Inside the Kimmel Center, the heavy-handedness continues. At the edges of the atrium are cantilevered balconies, accessible by grand stairs. The materials and detailing of the balconies themselves received the short end of the design stick. The gypsum-reinforced glass surface is bland, and the balustrades commonplace. Meanwhile, the acoustic solution has been cautiously embraced. Verizon Hall has "clarity," says Barbara Jepson of *The Wall Street Journal*, but "the loud orchestra pas-

sages were brittle." Other reviews were mixed. These things take time.

So in the end, was it worth all the angst? The good news is that six performing arts organizations have a home, and the Academy of Music is still in use for opera and ballet. The disconcerting news is that the orchestra is in debt \$4 million with a \$37 million budget and has 400 fewer seats than it had with the Academy. That means higher prices.

Architectural oomph costs money. And the cruelest irony offered by much of the design is that to make the big splash (Verizon Hall, the glass vault), you need to take shortcuts. This paring down of design creativity, use of materials, and detailing evidently was relegated to the outer, lower ramparts, unfortunately where it shows. The building isn't Bilbao. Yes, it's unfair to measure every major arts building on that scale. But, after all, that's how cities are trying to get into big time now—with "szhooshed-up" museums and performing arts centers. Instead of giving Philadelphia a breathtakingly new civic image, Kimmel Center presents a strange combination of both grand and pop. The pop is not lively, just conventional, rather like a sports stadium. So its "both/and" mix doesn't entirely come off. Like hearing Elton John in Verizon Hall. ■

#### Sources

**Steel frame:** *Helmark Steel*

**Masonry cladding:** *Beldon Brick*

**Wood:** *Architectural Woodworking Industries with Imperial Woodworking (Verizon Hall); Haggerty Woodworking (Perelman Theater)*

**Glass, end walls:** *National Glass (contractor); PPG (lights); Dlubak (lamination)*

**Glass, barrel vault:** *Architectural Skylight (manufacturer); Viracon (lights)*

**Elastomeric roofing:** *EDPM; Johns Manville*

**www** For more information on the people and products involved in this project, go to Projects at [architecturalrecord.com](http://architecturalrecord.com).

downtown. The results were urbanistically successful but bland. In 1958, Louis Kahn was not involved: He was designing his only big hometown job, the Richards Medical Research Laboratory for the University of Pennsylvania. That's where Robert Venturi was teaching, and his future partner, Denise Scott Brown, had just begun to study planning.

Perhaps one of the ironies of our times is watching taste subcultures blend over the years. Today, if you want a symphony hall, you design one that can also accommodate ice-skating performances. And if you plan an opening night, you have Sir Elton John and the Philadelphia Orchestra. (Not to mention that on the first night, Paul Anka and the \$30 million donor, dress manufacturer Stanley Kimmel, crooned a duet, Sinatra-style.) A concert hall that can handle this combination has to be sufficiently stuffy (meaning grand), but still pop (lively). This is something that Rafael Viñoly accomplished to a large degree with a spectacular sense of show biz. And, ironically, this could be the reason why Venturi Scott Brown (VSBA) ultimately lost its first major downtown project, the commission it had won in 1987 to design the new home for the Philadelphia Orchestra.

Although Venturi had coined the term "both/and" architecture, his and Scott Brown's scheme was perceived by the orchestra clients as "either/or." The firm's first design was too discreet. A redesign featuring a polychromed, metal and glass pedimented facade, festooned with musical notes, seemed too commercial (or too *American Bandstand*?)



**A roof garden with 16 planters sits atop the Perelman Theater, sheltered by the arched vault of folded-plate**

**Vierendeel trusses, (above). The 150-foot-high vault, spanning 174 feet, is made of two types of rectangular**

**steel tubes: one, 5 by 5 by ½ inches; the other, 5 by 4 by ½ inches. The glass panels are 7 by 3 feet by 3 inches.**



To be sure, Venturi Scott Brown's commission was modest, a privately funded hall just for the Philadelphia Orchestra, with a budget of \$74 million (\$76 million for the second version). But the clients weren't enchanted, and fund-raising stalled. Around 1995, then-mayor Edward Rendell conceived of a large performing arts complex of which the orchestra would be a part, all under the aegis of a public-private entity named the Regional Performing Arts Center (RPAC). The Philadelphia Industrial Development Corporation (PIDC), a quasi-public entity headed by former city-planning director Craig Schelter, acquired the land on behalf of the city and served as a conduit for \$65 million in state money. The Philadelphia Authority for Industrial Development leased the land to RPAC, which in turn rented space to the various participants.

The linchpin in the new mechanism was developer Willard Rouse III, who had been tapped by Rendell as RPAC's voluntary head. The nephew of developer James Rouse, Willard III had put his indelible stamp on Philadelphia in the 1980s by building Liberty Place, two garish Decoid Postmodern towers, one by Murphy/Jahn, the other by Zeidler Roberts. In so doing he broke the Philadelphia gentleman's agreement never to erect a tower higher than William Penn's statue on City Hall. Clearly, Philadelphia had changed.

With its mission, PIDC, on behalf of RPAC, invited only architects who had experience designing an auditorium to compete. (VSBA declined). The shortlist came down to Cesar Pelli, Barton Myers, Pei Cobb Freed, Viñoly, and Zeidler Roberts. Evidently, Viñoly, known for his ebullient charm, made a spellbinding presentation. It didn't hurt that he knew a lot about music: His father was artistic director of the Sodre Opera Theater in Buenos Aires, and Viñoly keeps a grand piano in his office.

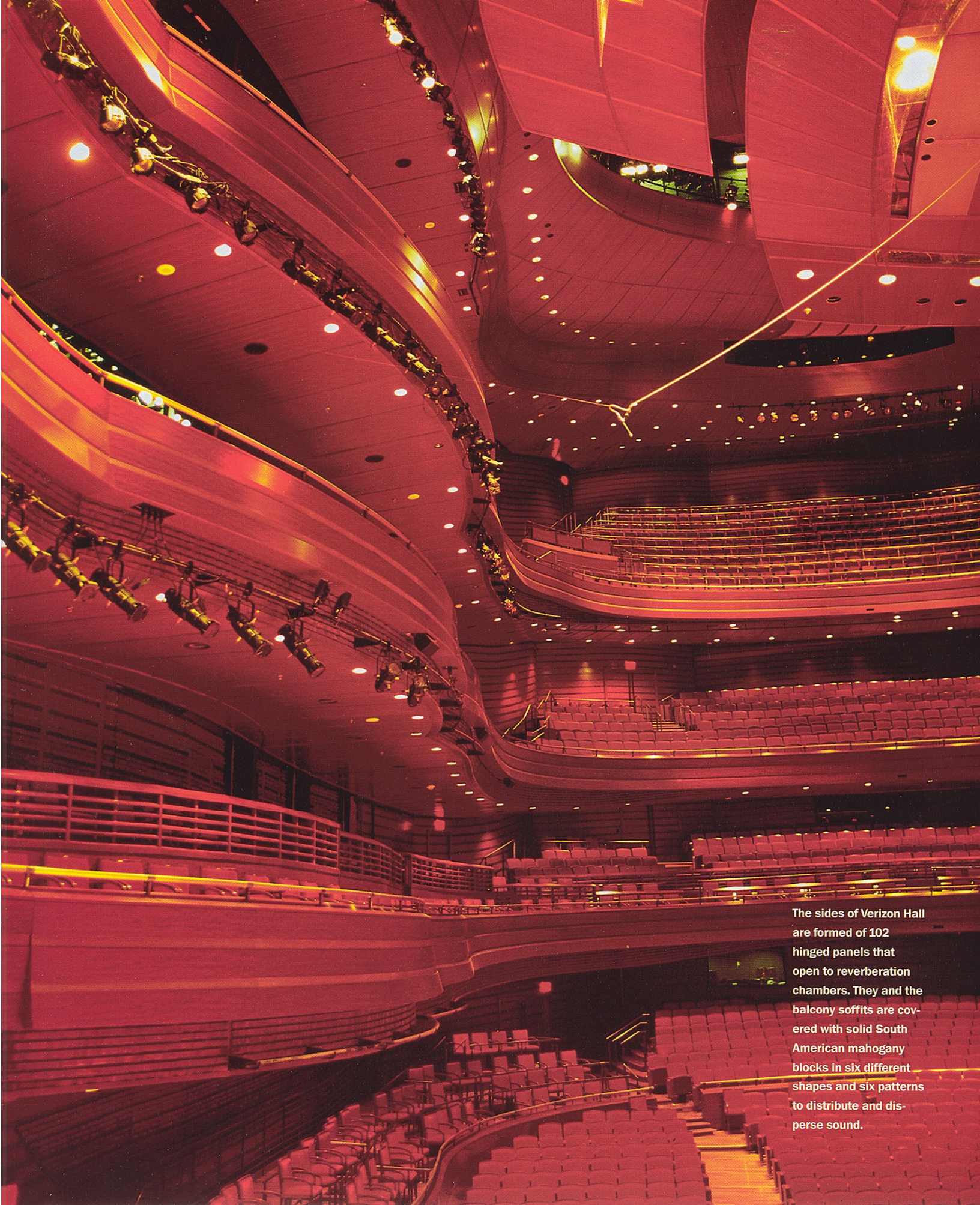
### Strengths of the Kimmel Center

Viñoly also knows how to create a big architectural whammy. His design calling card is the roof, as seen in his Lehman College Gym (1994), or the awe-inspiring atrium, seen in the Tokyo International Forum (1996). In Philadelphia, you get the shimmering, barrel-vaulted roof balanced on steel columns, and a sun-splashed atrium where the two large, sculptural, steel-framed containers for the auditoriums are moored.

The pièce de résistance is Verizon Hall (the Perelman Theater is being finished at press time). Sheathed on the outside in a reddish Makore wood, the cleanly crafted polygonal form has horizontal fins that project 7 inches at the top, then become 2-inch-deep reveals at the lobby level—a somewhat megascale homage to Frank Lloyd Wright's Sturges House (1939) in Los Angeles. Inside, the hall is clad in sumptuously curved mahogany panels, to which are added solid mahogany wood diffusion strips. The effect is ornate, warm, and stately without being a kitsch imitation of 19th-century opulence. The hall's cello shape and use of hardwood were only two of the strategies that Viñoly, acoustical consultant Russell Johnson, and theatrical consultant Richard Pilbrow labored over to keep the "Philadelphia Sound," while still solving all the acoustical problems that had prompted the new structure (see sidebar, p. 108).

As for the Perelman Theater, the geometrical amalgamation of a cube with rounded extensions, clad at the base in black granite (honed and polished), and a goldish corrugated steel top, is designed for instant convertibility. With a push of a button, this 650-seat recital hall easily changes into a theatrical playhouse. Viñoly and





The sides of Verizon Hall are formed of 102 hinged panels that open to reverberation chambers. They and the balcony soffits are covered with solid South American mahogany blocks in six different shapes and six patterns to distribute and disperse sound.